Thirteenth Biennial Report

of the

Department of Agriculture

of the

State of Florida

Division of Agriculture and Immigration

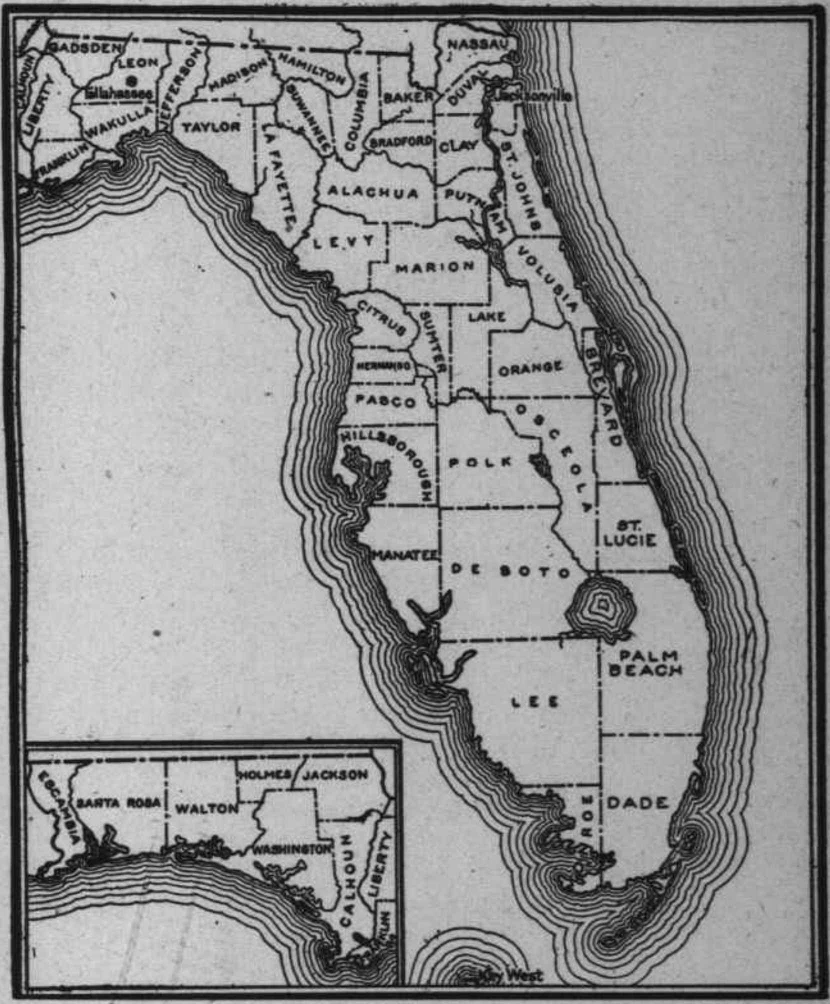
FOR THE YEARS
1913-14

W. A. McRAE
Commissioner of Agriculture
Tallahassee, Florida

T. J. APPLEYARD, STATE PRINTER,
TALLAHASSEE, FLORIDA.

FLORIDA STATE LIBRARY

COUNTY MAP OF STATE OF FLORIDA.



LETTER OF TRANSMITTAL.

DEPARTMENT OF AGRICULTURE, STATE OF FLORIDA,
COMMISSIONER'S OFFICE.

To His Excellency,
Park Trammell,
Governor of the State of Florida:

Sir:

As provided by law, I herewith submit the Biennial Report of the Department of Agriculture for the years 1913-1914. The dates upon which the agricultural, horticultural and industrial statistics are based cover the period from July 1, 1913, to June 30, 1914, inclusive. All other divisions in the report extend to December 31, 1914, inclusive.

Respectfully submitted,

W. A. McRAE,
Commissioner of Agriculture.

PREFACE.

In the publication of a report that will give the best results, we find it necessary to present each branch or division of the Department separately, treating each subjest or division separate and distinct from the other. We therefore publish the report of each division under separate cover:

In order that the public may realize the magnitude and importance of the work of the Department of Agriculture, we give below an outline of the duties of the Commissioner of Agriculture.

1. Division of Agriculture.
2. The Division of Immigration.
3. The Prison Division.
4. The Pure Food & Drugs, Stock Feed & Fertilizer Division.
5. The Land Division.
6. The Field Note Division.
7. Shell Fish Commission.

In addition to the above, the Commissioner of Agriculture is a member of the following Boards:

1. The Board of Commissioners of State Institutions.
2. The Board of Pardons.
3. The Trustees of the Internal Improvement Fund.
4. The Board of Drainage Commissioners.

STATEMENT.

OF EXPENDITURES OF APPROPRIATIONS

In accordance with the provisions of Chapter 5870, Laws of Florida, Acts of the Legislature, 1909, I herewith submit the following detailed report of the expenditures of funds appropriated for the different divisions of the Department of Agriculture for 1913 and 1914.

POSTAGE, AGRICULTURAL DEPARTMENT.

1913.			
Jan. 1	By Appropriations first six months 1913		$ 450.00
Jan. 1	To amount brought down	$ 3.40	
Jan. 2	To Postal bill for December, 1912	41.59	
Jan. 11	To W. A. McRae, money advanced for postage stamps	8.50	
Feb. 1	To Postal bill for January	97.81	
Mar. 1	To Postal bill for February	127.87	
Mar. 3	To Postage on January quarterly bulletin	20.33	
Apr. 2	To Postal bill for March	100.12	
June 3	To Postal bill for May (in part)	10.00	
		$ 400.62	
	To amount due to balance	40.38	
	Total	$ 450.00	$ 450.00

	By balance brought down.		$ 40.38
1913.			
July 1	—By appropriation for last six months 1913		800.00
July 2	—To Postal bill (stamps for June) ....$	87.02	
July 2	—To Postage on bulletin (2,488 lbs.)	24.88	
July 21	—To Postal bill for July....	112.00	
Aug. 7	—To amount for envelopes..	75.10	
Sept. 2	—To Postal bill for August.	54.24	
Sept. 2	—To Postage on bulletin (4,060 lbs.)	40.60	
Oct. 2	—Postal bill for September..	44.50	
Oct. 31	—To Postal bill for October.	87.00	
Oct. 31	—To 5,000 envelopes, No. 5..	106.20	
Oct. 31	—To 1,000 envelopes, No. 8..	22.00	
Oct. 31	—Postage due	.23	
Dec. 1	—To Postal bill for November	93.17	
Dec. 1	—To Postage on bulletin....	10.50	
		$ 757.44	
	To amount due to balance.	82.94	
		$ 840.38	$ 840.38

POSTAGE, AGRICULTURAL DEPARTMENT.

1914.			
Jan. 1	—By amount brought down............		$ 82.94
Jan. 1	—By appropriation for 1914...........		1,000.00
Jan. 2	—To postal bill for December, 1913 ....$	87.08	
Jan. 27	—To postage stamps, Jan. 1..	59.00	
Jan. 27	—To postage stamps, Jan. 15.	57.15	
Mch. 2	—To 5,000 envelopes.........	106.20	
Mch. 2	—To postage stamps.........	104.06	

Mch. 2—To postage on bulletin.....	26.75	
Apr. 1—To postal bill for March...	111.70	
Apr. 30—To postal bill for April....	113.11	
May 28—To 5,000 envelopes, $106.20; postal bill for May, $52.07.	158.27	
May 28—To April bulletin, postage..	25.00	
June 30—To postal bill for June.....	85.28	
Aug. 3—To postal bill for July.....	36.12	
Aug. 3—To 5,000 No. 5 envelopes...	106.20	
	$1,075.92	
To Amt. due to balance.	7.02	
	$1,082.94	$1,082.94

EXPRESS AND TELEGRAMS.

1913.		
Jan. 1—By balance brought down..$		.10
Jan. 1—By appropriation first six months 1913		$ 200.00
Jan. 3—To Southern Express Co., Dec. bill	19.08	
Jan. 3—To W. U. Telegraph Co., Dec. bill	19.04	
Feb. 3—To Southern Express Co., Jan. bill	40.02	
Feb. 4—To W. U. Telegraph Co., January bill	27.12	
Mar. 3—To W. U. Telegraph Co., February bill	14.08	
Mar. 3—To Sou. Express Co., Feb. bill	36.37	
Apr. 3—To. W. U. Tel. Co., March bill	3.59	
Apr. 3—To Sou. Express Co., Mar. bill	23.35	

May	1—To. Southern Express Co., April bill	3.60	
May	7—To. W. U. Telegraph Co., April bill	5.21	
June	3—To Southern Express Co., May bill	1.65	
June	4—To W. U. Telegraph Co., May bill	6.26	
		$ 199.37	
	Amount due to balance..	.73	
		$ 200.10	$ 200.10
1913.			
July	1—By amt. bal. brought down		$ .73
July	1—By appropriation last six months 1913		350.00
July	2—To Southern Express Co., June bill	1.16	
July	2—To W. U. Telegraph Co., June bill	9.18	
Aug.	2—To Southern Express Co., July bill	8.55	
Aug.	5—To W. U. Telegraph Co., July bill	9.16	
Sept.	2—To Southern Express Co., August bill	14.87	
Sept.	5—To W. U. Telegraph Co., August bill	7.65	
Oct.	2—To Southern Express Co., September bill	15.08	
Oct.	4—To W. U. Telegraph Co., September bill	9.44	
Nov.	3—To Southern Express Co., October bill	40.91	
Nov.	3—To W. U. Telegraph Co.,		

	October bill	43.10	
Dec.	1—To Southern Express Co., November bill	28.21	
Dec.	4—To W. U. Telegraph Co., November bill	7.28	
		$ 194.59	
	Amount due to balance...	156.14	
		$ 350.73	$ 350.73
1914.			
Jan.	1—By amount brought down............		$ 156.14
Jan.	1—By appropriation for year 1914.......		700.00
Jan.	2—To Southern Express Co., December bill............	$ 51.97	
Jan.	6—To W. U. Telegraph Co., December bill............	12.55	
Jan.	7—To freight and drayage on 20,000 maps..............	45.88	
Jan.	13—To freight and drayage on 100 mtd. maps...........	2.00	
Jan.	28—To freight and drayage on box envelopes............	6.03	
Jan.	29—To freight and drayage on box stationery............	2.28	
Feb.	3—To freight and drayage on package paper...........	4.12	
Feb.	3—To Southern Express Co., January bill.............	45.61	
Feb.	5—To W. U. Telegraph Co., January bill..............	3.90	
Feb.	19—To freight and drayage on stationery	1.63	
Mch.	2—To Southern Express Co., February bill............	47.78	
Mch.	2—To W. U. Telegraph Co., February bill............	5.07	

Apr.	1—To Southern Express Co., March bill	34.73
Apr.	1—To W. U. Telegraph Co., March bill	3.79
Apr.	14—To A. E. Tully, moving safe from depot	25.00
May	1—To Southern Express Co., April bill	19.46
May	2—To W. U. Telegraph Co., April bill	1.83
May	2—To freight and drayage on stationery	1.38
May	22—To freight on paper and letter files	2.68
May	25—To freight and drayage on stationery	1.72
June	2—To W. U. Telegraph Co., May bill	4.32
June	2—To Southern Express Co., May bill	17.51
July	2—To W. U. Telegraph Co., June bill	1.39
July	2—To Southern Express Co., June bill	61.08
Aug.	3—To W. U. Telegraph Co., July bill	3.65
Aug.	3—To Southern Express Co., July bill	14.54
Sept.	1—To Southern Express Co., August bill	25.46
Sept.	2—To W. U. Telegraph Co., August bill	6.22
Sept.	15—To freight and drayage on fertilizer stamps	1.77
Oct.	1—To Southern Express Co., September bill	25.01

Oct. 2—To W. U. Telegraph Co., September bill............	4.12	
Nov. 3—To Southern Express Co., October bill..............	25.15	
Nov. 3—To W. U. Telegraph Co., October bill..............	2.38	
Nov. 12—To freight and drayage....	1.52	
Dec. 3—To W. U. Telegraph Co., November bill............	2.81	
Dec. 3—To Southern Express Co., November bill............	37.16	
	$ 553.50	
Amount due to balance.	302.64	
	$ 856.14	$ 856.14

Printing Stamps for Fertilizer and Stock Feed.

1913.		
Jan. 1—By appropriation first six months 1913		$ 900.00
Jan. 1—By amount brought down..		497.50
Jan. 2—To American Bank Note Co., 1,500,000 stamps	525.00	
Feb. 15—To American Bank Note Co., 1,500,000 stamps	525.00	
Mar. 1—To American Bank Note Co., 100,000 stamps	35.00	
Apr. 7—To American Bank Note Co., 300,000 stamps	105.00	
May 13—To American Bank Note Co., 600,000 stamps	210.00	
By amount due to balance		2.50
	$1,400.00	$1,400.00

1913.			
July 1	—To amount brought down..$	2.50	
July 1	—By appropriation last six months 1913.............		$1,000.00
July 7	—To American Bank Note Co., 300,000 stamps......	105.00	
Aug. 8	—To American Bank Note Co., 300,000 stamps......	105.00	
Aug. 29	—To American Bank Note Co., 100,000 stamps	35.00	
Nov. 4	—To American Bank Note Co., 1,500,000 stamps.....	525.00	
		$ 772.50	
	To amount due to balance	227.50	
		$1,000.00	$1,000.00
1914.			
Jan. 1	—By amount brought down..		$ 227.50
Jan. 1	—By appropriation for year 1914		2,000.00
Jan. 1	—To American Bank Note Co., 900,000 stamps......	315.00	
Jan. 13	—To American Bank Note Co., 100,000 stamps	35.00	
Jan. 13	—To American Bank Note Co., 200,000 stamps......	70.00	
Feb. 9	—To American Bank Note Co., 1,400,000 stamps....	490.00	
Apr. 20	—To Falconer Company, 600,000 stamps	195.00	
May 1	—To Falconer Company, 600000 stamps	195.00	
June 4	—To Falconer Company, 300,000 stamps	97.50	

July 21—To Falconer Company, 300,000 stamps	90.00	
Sept. 15—To Falconer Company, 300,000 stamps	90.00	
Sept. 21—To Falconer Company, 299,800 stamps	97.44	
Nov. 17—To Falconer Company, 450,000 stamps	135.00	
Dec. 1—To Falconer Company, 500,000 stamps	162.50	
	$1,972.44	
Amount to balance	255.06	
	$2,227.50	$2,227.50

TRAVELING AND OTHER CONTINGENT EXPENSES COMMISSIONER OF AGRICULTURE.

1913.		
Jan. 1—By Appropriation first six months 1913		$ 125.00
Jan. 1—By Balance brought down.		534.15
July 1—By Appropriation last six months 1913		200.00
Nov. 25—To Traveling expenses West Palm Beach, Marianna, and Jacksonville fairs, etc.	$ 64.47	
Dec. 5—To Traveling expenses to Gainesville and Ocala fairs	25.48	
	$ 89.95	
Amount due to balance	769.20	
	$ 859.15	$ 859.15

1914.		
Jan. 1—By amount brought down..		$ 769.20
Jan. 1—By appropriation for year 1914		400.00
Jan. 10—To trip to Gainesville to meeting of State Live Stock Association ....$	11.20	
Apr. 14—To expenses of trip to various points of South Florida	75.06	
Apr. 14—To trip to Tampa.........	26.29	
Apr. 16—To trip to Palatka, Farmers Convention	17.55	
Apr. 20—To trip to Brooksville....	20.54	
Aug. 20—To trip to Washington, Cotton Congress	85.00	
Aug. 24—To trip to Bay and Washington counties	12.51	
Sept. 18—To trip to Illinois and Ohio, on live stock.......	178.41	
Oct. 1—To Auto hire, St. Marks, oyster	6.00	
Oct. 20—To trip to Agricultural meeting, Mayo	10.80	
Nov. 10—To expenses of trip to National Nut Growers Association, Thomasville	6.90	
Nov. 10—To trip to County fair, Quincy	4.75	
Nov. 10—To trip to County fair, Marianna	4.30	
Nov. 16—To trip to County fair, Live Oak	8.05	
Dec. 2—To trip to Panama City, prosecution in oyster cases	14.18	
Dec. 5—To visit to State Reform School, Marianna	9.84	

Dec. 19—To trip to Bay County fair.	15.63	
	$ 507.01	
Amount due to balance...	662.20	
	$1,169.20	$1,169.20

Printing Bulletin, Agricultural Department.

1913.		
Jan. 1—By appropriation first six months, 1913.............$	.....	$1,250.00
Amount deficit brought down ....$	228.99	
June 20—To T. J. Appleyard, 8,500 copies quarterly bulletin, first section, 128 pages....	598.40	
June 20—To second section, 58 pages.	271.15	
June 20—To extra stitching, second section	20.00	
June 20—To printing and mounting two maps in second section	30.00	
June 20—To making 2 map cuts, second section..............	15.00	
	$1,163.54	
Amount due to balance.	86.46	
	$1,250.00	$1,250.00
July 1—By amount brought down..$	.....	$ 86.46
July 1—By appropriation last six months, 1913.............		1,500.00
Aug. 29—To printing Quarterly Bulletin for July, 8,500 copies, and 1,000 separates.......	1,119.52	

Oct. 31—To T. J. Appleyard, printing Quarterly Bulletin for October	323.40	
	$1,442.92	
Amt. due to balance......	143.54	
	$1,586.46	$1,586.46
1914.		
Jan. 1—By Amt. brought down....$	.....	$ 143.54
Jan. 1—By appropriation for 1914.		3,000.00
May 1—To T. J. Appleyard, printing bulletin for April. ..	822.80	
Aug. 2—To T. J. Appleyard, printing July Quarterly Bulletin	748.00	
Aug. 2—To printing 6,000 supplements to July Quarterly Bulletin	63.00	
Oct. 16—To T. J. Appleyard, printing 9,000 supplements to Quarterly Bulletin........	176.50	
Oct. 30—To printing October bulletin, 7,500 copies..........	740.00	
Oct. 30—To paste and cutting paper for wrapping bulletins....	1.00	
Oct. 30—To printing 2,000 copies supplement to October Quarterly Bulletin............	81.25	
Dec. 30—To printing 1,000 copies supplement to October Quarterly Bulletin........	105.00	
	$2,737.55	
Amount due to balance...	405.99	
	$3,143.54	$3,143.54

XXI.

STATIONERY AND OTHER CONTINGENT EXPENSES, AGRICULTURAL DEPARTMENT.

1913.		
Jan. 1—By Appropriation first six months 1913		$ 400.00
Jan. 1—By amount brought down..		60.11
Jan. 11—To Remington Typewriter Company ....$	16.00	
Jan. 13—To freight and drayage on envelopes	6.11	
Jan. 13—To U. S. Envelope Company	95.55	
Jan. 13—To H. R. Kaufman, repairing typewriter	1.00	
Feb. 3—To D. R. Cox Furniture Company	5.75	
Feb. 3—To J. F. Hill, stationery supplies	2.50	
Feb. 3—To H. & W. B. Drew Company	15.67	
Feb. 4—To freight and drayage on stationery	1.34	
Feb. 20—To J. W. Corbett.........	.90	
Mar. 5—To D. R. Cox Furniture Company	2.25	
Mar. 5—To T. J. Appleyard, State Printer	1.00	
Mar. 24—To freight and drayage on stamps	1.57	
Apr. 2—To J. F. Hill, stationery...	16.50	
Apr. 2—To H. R. Kaufman, typewriter ribbons	4.75	
Apr. 2—To T. J. Appleyard, State Printer	7.95	
Apr. 4—To Yaeger & Bethel Hardware Co.	1.00	

May 1—To Postal bill for April...	112.02	
May 10—To Remington Typewriter Company	7.00	
May 10—To freight and drayage on stamps	2.67	
June 3—To Postal bill for May....	71.15	
June 3—To H. & W. B. Drew Company	18.30	
June 3—To D. R. Cox Furniture Company	3.00	
June 3—To J. F. Hill, typewriter ribbons	2.25	
June 4—To Southern Telephone & Construction Company (long distance)	1.00	
June 24—To freight and drayage....	1.52	
	$ 398.75	
Amount due to balance...	61.36	
	$ 460.11	$ 460.11
1913.		
July 1—By amt. brought down.....		$ 61.36
July 1—By appropriation last six months 1913		650.00
July 2—To T. J. Appleyard, State Printer, ...	14.00	
July 2—To D. R. Cox Furniture Co.	3.00	
July 10—To frt. and drayage on two cases old stamps from N. Y., never used...........	8.90	
July 10—To Geo. D. Barnard & Co., 25,000 letter heads and frt.	148.07	
July 19—To frt. and dray. on stat'y.	2.96	
Aug. 2—To frt. and drayage on dictionary stands	2.63	

Aug. 2—To T. J. Appleyard, stat'y. supplies	4.75	
Aug. 2—To H. R. Kaufman, typewriter ribbon	.75	
Aug. 12—To The Fla. Grower, sub..	1.00	
Sept. 2—To Columbus Office Supply Company	47.77	
Sept. 2—To frt. and dra. on stat'y.	1.38	
Sept. 2—To H. R. Kaufman, 1 ribbon	.75	
Sept. 9—To H. & W. B. Drew Co., stationery	18.20	
Oct 2—To Underwood Typewriter Co., 1 machine No. 3......	75.78	
Oct. 2—To Underwood Typewriter Co.,1 machine No. 5......	66.73	
Oct. 31—To T. J. Appleyard, State Printer	99.30	
Nov. 12—To J. F. Hill, stationery...	5.80	
Nov. 22—To frt. and drayage on sta'y.	1.63	
	$ 503.40	
Amount due to balance..	207.96	
	$ 711.36	$ 711.36
1914.		
Jan. 1—By amt. brought down....		$ 207.96
Jan. 1—By appropriation for year 1914		900.00
Jan. 6—To Columbus Office Sup. Co.	38.63	
Jan. 6—To H. & W. B. Drew Co....	3.50	
Jan. 6—To Keystone Supply Co....	5.00	
Jan. 6—To Underwood Typewriter Company, 1 typewriter....	53.03	
Jan. 6—To 1 coupon book (ribbons)	4.50	
Jan. 6—To J. F. Hill, paste and file cases	1.25	

Jan.	13—To Am. Food Journal, subscription	1.00
Jan.	14—To The Mathews Northrup Works, 100 mounted maps.	30.00
Jan.	19—To 4 sectional book cases..	12.00
Jan.	31—To Manufacturers' Record, subscription	4.00
Feb.	9—To Columbus Office Supply Company	20.50
Feb.	9—To Underwood Typewriter Co., ribbons	9.00
Feb.	21—To American Mills Company	30.08
Feb.	21—To American Mills Company, envelopes	94.55
Feb.	21—To American Mills Company, twine	3.73
Mch.	2—To D. R. Cox Furniture Co., files	1.10
Apr.	1—To Geo. D. Barnard & Co...	33.51
Apr.	1—To D. R. Cox Furniture Co.	1.00
Apr.	1—To D. R. Cox Furniture Co., letter files	1.00
Apr.	1—To D. R. Cox Furniture Co., rack and stand	21.00
Apr.	1—To C. C. Hayes Co., ink pads	3.20
Apr.	1—To T. J. Appleyard, State Printer	2.50
Apr.	1—To J. F. Hill, stationery...	1.35
Apr.	15—To Williams & Kwilecki, steel cabinet	100.00
May	2—To Columbus Office Supply Company	18.00
May	2—To Standard Supply Company	7.76

May 2—To Remington Typewriter Company	3.50
May 30—To Alvah Bushnell Co., stationery	14.00
June 2—To J. F. Hill, stationery supplies	3.40
June 3—To H. R. Kaufman, repairing typewriter	.50
June 3—To Yaeger-Bethel Hardware Co.	.50
June 10—To Columbus Office Supply Co.	18.75
July 1—To Walker, Evans & Cogs..	$ 10.80
July 1—To T. J. Appleyard, crop report blanks	1.50
July 2—To J. F. Hill, 18 box files..	4.50
July 2—To D. R. Cox Furn. Co.	4.55
July 6—To J. G. Fugate, Atlas of the World	3.95
July 24—To The Fla. Grower, subscr.	1.30
Sept. 1—To Postal bill for August	39.11
Sept. 1—To. H. & W. B. Drew Co...	6.00
Sept. 1—To Underwood Typewriter Co., ribbons	9.00
Sept. 1—To Walker, Evans & Cogs.	6.18
Sept. 2—To bill for postage on July bulletin	21.48
July 5—To Tallahassee Bd. Public Works, electric fan	16.00
Oct. 1—To Geo. D. Barnard & Co., stationery	102.31
Oct. 1—To Geo. D. Barnard & Co., 4 badges	9.05
Oct. 1—To. Columbus Office Sp. Co.	1.55
Oct. 1—To J. F. Hill, I ledger	1.25
Oct. 1—To Walker, Evans & Cogswell	3.68

Oct. 1—Postal bill for September.	40.04	
Oct. 16—To T. J. Appleyard, printing blanks	1.50	
Oct. 31—To Postal bill for October.	72.84	
Nov. 3—To J. F. Hill, ribbons, seal, ink	2.55	
Nov. 24—To Manufacturers' Record, subscription	4.00	
Dec. 1—To Postal bill for November	83.29	
Dec. 2—To Postage on October bulletin	23.91	
Dec. 3—To H. N. Sweeting, repairing clock	.75	
Dec. 14—To J. A. Johnson, Clerk Circuit Court, Polk Co., certified copy Ct. decision	1.10	
	$1,044.23	
Amount due to balance	63.73	
	$1.107.96	$1,107.96

DIVISION OF AGRICULTURE.

Article 4, Section 26 of the Constitution, provides that "The Commissioner of Agriculture shall perform such duties in relation to Agriculture as may be prescribed by law, shall have supervision of all matters pertaining to the public lands under regulations prescribed by law, and shall keep the Bureau of Immigration. He shall also have supervision of the State prison and shall perform such other duties as may be prescribed by law."

CHANGE IN FORM OF PRINTING REPORT.

This book contains the report of the Department of Agriculture, Industries and Immigration only, the other three Divisions being also contained in separate publications. This is made necessary by the greatly increased amount of work of the Department. If the work of all branches of the Department were published in one book, as formerly, its usefulness would be very much impaired as a medium for distributing through the mails the fullest and most reliable information concerning the resources, advantages and products of our State because of its unwieldly size and weight. Copies of any one of the divisions in separate form can be had on application.

It is not inappropriate here to make some reference to the volume of work in brief detail, as performed and accomplished by this division and in connection with the subjects discussed in various forms in the pages that follow.

Number of letters written on Agricultural subjects and in relation to Immigration, approximately..20,000
This does not include duplicate or circular letters.

The number of maps distributed to applicants by mail for the two years 1913 and 1914	25,000
Number of packages containing printed information sent in reply to inquiries concerning the State	35,000
Number of Quarterly Bulletins used in Immigration work and mailed to applicants on request beyond the State	30,000
Number of Quarterly Bulletins mailed to regular subscribers (no subscription fee)	49,000
Number of express packages handled by this division	600
Number of packages by registered mail	300
Number of telegraph messages received and answered, approximately	550

Just reading over the bare statements and figures above made, conveys no conception of the vast amount of work required to properly direct and perform the duties entailed upon the office by the varied character of the demands for information.

This does not include the work of gathering and compiling the Agricultural, Industrial and other Statistics of the State, nor the preparation of the vast quantity of matter for publication in various forms with which to meet the ever increasing demand for information in a more or less detailed form.

As a matter of fact, the inquiries concerning Florida no longer come from the curious, but from people who are interested and wish to make new homes in our State. They mean business and we have to meet them in a business way; no high colored pictures of imagination will satisfy them and it is not wanted. The country has been deluged with that by the designing and unscrupulous land agents and promoters beyond the limit of forebearance and it should be suppressed by law. Facts alone are what is asked for, and that is what this Department offers them in reply. It makes no statement that it cannot verify. It considers the truth good enough, and that is precisely what will be found in these pages, placed there for the benefit of all those who wish to know something of the advantages, possibilities and opportuuities in Florida open to and within the grasp of all capable, industrious and enterprising people.

AGRICULTURAL MATTERS.

Observations and Suggestions.

The progress and advancement made by our State in the lines of agricultural and industrial development during the two years just past has attained results the like of which was never dreamed of by the most enthusiastic person of a few years ago. Considering the rapidity of the change in what may be justly termed an era of transformation, the events of the recent past appear as ancient history. When we reflect upon the remarkable success attained by those engaged in the various branches of agricultural pursuits, we perforce realize that there is practically no limit to the capacity of our soils or our resources and possibilities for industrial development.

The great war now being waged in Europe has had it is true a depressing effect on the values of certain of our products, such as citrus fruits and cotton. This condition has come about within the last few months, but indications at this time are that a change for the better is in sight, and that through the partial substitution of some industries for those now depressed, and the increased production in others, normal conditions may soon be resumed and an equilibrium maintained.

A diversity of soil crops and an increase in the live stock industry, to the extent that the farms are made self sustaining, will work wonders in the restoration of normal conditions. It will do more, it will demonstrate beyond doubt that the only road to profitable farming lies in the diversification of crop production and the growing of live stock, and it is morally certain to create a lasting system of farm management along the lines suggested.

With the great and continued improvements in methods of planting, manuring and cultivating the numerous crops, largely through the aid of improved implements, the yields have been increased to a remarkable degree. Indeed it is not unusual for the grower of such crops as lettuce, celery, cauliflower, tomatoes, eggplants and other crops under an intensive system of cultivation, to receive from three to five hundred dollars per acre, and in many instances with as high as eight to twelve and even fifteen hundred dollars per acre. Under old time methods such yields would have been impossible; nor are these methods alone practiced in the production of vegetable crops, the same improvements have been and are being rapidly extended into the cultivation of the standard field crops, such as cotton, corn, oats, velvet beans, cow peas and others. In this direction great assistance is being given the farmers of the State through the Farmer's Institute work under the direction of Prof. P. H. Rolfs, Director of the Experiment Station, and the work of the United States demonstration agents in the several counties under the direction of Prof. C. K. McQuarrie, U. S. Demonstration Agent for Florida. The results of the work of these agencies have been so successful, as well as surprising, that thousands either wholly or in part have adopted new and better methods of farm practice.

This Department has in every way possible added what it could towards the improvement of all branches of farm work by correspondence and by the publication of special bulletins on the best methods for the growing of vegetables, fruits, nuts and standard field crops, description of soils and their adaptability to the production of various crops, and also the various phases of live stock growing and feeding. Further on in this report a number of the articles above referred to will be found. They are placed in this report for the use and benefit of not only the farmers of our own State, but for the thousands of people from other States who are contemplating of residence to Florida and who will seek the information they contain preliminary to coming to our State. These people are entitled to this information and the only practical way of supplying it is, in printed form, and that is in this report, and the quarterly bulletins of this Department.

SUGGESTIONS—SPECIAL CROPS.

Some suggestions which we believe worthy of attention by the people generally of the State, and those engaged in any one or all of the agricultural pursuits, is that it is well for each farmer to make a specialty of some crop while at the same time practicing diversification of crop production to as great an extent as possible.

There are many side crops adapted to the various sections of the State that pay fancy prices, and which usually come at a time of the year or season when conditions are such as to create a demand out of the ordinary. This rule holds good also as to standard crops. We suggest as an example in the latter line sugar cane growing and manufacturing either into syrup or sugar. Syrup is preferably for the single farm or for a very few. Sugar manufacturing is better for a large number either on some co-operative plan or by a company of large capital.

Conservatively speaking there are at least twelve million acres of land in Florida unexcelled any where in the United States for the purpose, and if all the wet lands of the State were reclaimed for cultivation she could furnish sugar for the world, and feed millions of people besides. Therefore sugar cane growing is not likely to be overdone, unless it should be practiced to the exclusion of other crops; such a course would mean disaster.

If the twelve to fifteen million acres of wet lands in

Florida were reclaimed they would add over three hundred millions of dollars to the value of our resources. Then why not more drainage districts? Good business policy demands it. All wet land should be drained and the hills and slopes should be turned into pastures for live stock.

LIVE STOCK.

The greatest of all farm specialties is live stock. Whatever branch of farming is carried on, live stock should form as large a part of it as possible. It is one of the greatest aid to successful crop production, as well as one of the surest means of making money. Unfortunately, in our country the cattle tick is a menace of serious proportions to cattle growing, and before cattle growing on a large scale can be established with the degree of success that it should, effective measures must be adopted and carried out for the complete eradication of the tick. We urge the necessity for this action upon the attention of the Legislature as one necessary to, not only the preservation of the cattle industry as it stands, but what is of greater importance, its building up and improvement by the introduction of new and better breeds. On another page will be found a very interesting and convincing article on this subject, but let us bear in mind that practically all of the eastern hemispheres is in the throes of war, and is today drawing toll at a tremendous rate from this country.

That there is an extremely limited production of either animal or vegetable food products for the support of the people of the warring countries of Europe and that the want of it is today endangering the lives of millions of their inhabitants. That in America already the depletion of food supplies is becoming noticeable in the high prices of breadstuffs, especially wheat—$1.67 per bushel. All food animals are in greater demand than can be supplied, and it is quite probable that this demand will continue for possibly ten years or even longer, even though the war should end at once, which is very improbable. But even when it does end there will be a shortage of live stock for agricultural purposes. This need will have to be met, and the only source of supply will be of our own raising. They will not be obtainable in other States as formerly. They will have to be supplied by the livestock growers of the State.

It is not likely that production can or will be overdone.

The day is far distant when the prices of meats will cheapen, the trend is upward, and the chances are that meats of all kinds will grow dearer steadily for years to come.

To the man from the live stock growing sections of the North and West, who prefers a better climate and a better country for stock growing and feeding, no section of the United States offers equal advantages and inducement for this purpose with Florida. Investigation along this line is suggested to those interested.

No Fence Law.

In connection with live stock growing is the necessity for the fencing of stock to prevent the destruction of the crops of the farms—truck and fruit grown. This is a very important question. Many favor it and many oppose it. But the sooner, however, preparations are made to meet it the better. The large bodies of wild lands are fast being bought up by the settlers. The thousands of people who are coming to our State to make homes will need and demand protection for their farms, gardens and orchards from the depredations of roaming live stock. This is the best time to meet the issue.

XXXIV.

GOOD ROADS—ARE THEY A GOOD INVESTMENT?

Good roads are a public asset. This is admitted.

Bad roads, a blot upon a country's intelligence, and a menace to its industrial conditions. This is also admitted.

If a public asset, then is the building of good roads a good public policy? This is often questioned.

Consider the following facts:

It is a necessity to successful farming and rural travel All agree to this. Good roads often mean to the farmer the difference between affluence and bankruptcy. Its savings in the wear and tear of vehicles as well as horse flesh, or auto power, will go far towards keeping the roadways in repair. Good roads are a necessary adjunct to the successful maintainance of the country schools. Good roads make regular attendance upon these schools a possibility. Bad roads make it practically impossible a great part of the time.

Good roads are necessary to regular delivery of rural mails and increase the benefits to be derived from parcel post. Good roads are really a very practical sort of public utility, that the people own and control, free from corporate influence or manipulation.

Good roads are prime reducers of the high cost of living, especially by rural peoples. They increase the farmers' profits, make country life more pleasurable and encourage a desire for the most useful avocations of life.

Thus good roads promote improvements on every hand by creating habits of thrift, independence, happiness and contentment and make each community a power for good in the land.

It is not necessary that great sums of money be spent in either building or repairing these highways, but whatever sum or sums are used should be expended carefully and intelligently.

We offer no suggestions as to the methods of building or the character of the labor to be used; these are subjects for the engineer and the community, county or the State to determine as the case may be. But good roads is one of the greatest questions before the people of our community or county and the State as well today. It is a subject that will not down. A good roads law is needed.

It is said that "a man is known by the company he keeps;" apply the rule here; and the time is near at hand when the people of a community, a county or a State will be judged by the character of its public highways. Can Florida afford such comparisons?

IMMIGRATION.

A synopsis of the detailed work of this Department under this head appears on previous pages, and indicates clearly the volume of the work transacted through this Department, because there is no separately established Bureau of Immigration charged with the duty of caring for the business. True, the Constitution requires the Commissioner of Agriculture to "keep the Bureau of Immigration," but in the absence of adequate help, this work must be and is performed by the clerical force of the Department of Agriculture.

BUREAU OF IMMIGRATION.

A properly and efficiently equipped Bureau of Immigration would undoubtedly be of immense benefit to the State. In addition to advertising the resources and advantages of the State correctly and without exaggeration, in every section of the United States, or elsewhere when advisable, it should have the authority to protect home seekers and investors against wild cat schemers, whether they be in the form of so-called land and colonization companies or individuals. There are quite a large number of good companies who are doing a fair and legitimate land business in the State, but there are unquestionably a number of fraudulent concerns whose sole object is to fleece every man and woman who comes in their way, of every dollar possible. These men should be caught up with and punished or driven from the State unless they adopt legitimate methods of doing business. Under the guise of real estate dealers they make a business of deceiving and swindling the unsuspecting and uninformed. They buy either for cash or on long time, tracts of the cheapest lands they can find; they place a fictitious value of several hundred per cent on them above their cost, and through the grossest misrepresentation of what they are good for, painted in glowing word pictures and untruthful deceptive so-called photographs of their lands, they lure their unsuspecting victims into making contracts for what they call farms, on installment payments—on investigation these forms are often found to be located in ponds, swamps or sand hills. Many innocent persons have lost their all through these swindlers. Therefore, we say that if a Bureau of Immigration is established, and it should be, that it be given the authority to investigate any of these land development schemes whose methods of doing business excite suspicion. The State of Florida cannot afford to pass this question by unnoticed, or without correction. The good name of the State demands it. The companies and individuals doing a legitimate business in the devolpment and sale of their lands demand it also, and they have a right to insist upon a correction of the evil

Any law establishing such a Bureau should be broad in its scope, liberal in the encouragement of immigration, yet conservative in its preferences or selections of only the most desirable people. The present war being waged in Europe only adds to the gravity of the situation, for upon its conclusion or shortly after, it is quite likely that there will be a great movement of people from those devastated lands to America. It is then that the greatest care and caution should be observed in the admission of these foreign immigrants. The criminal classes and the shiftless tramps who go on the plan that the world owes them a living, or the "blood suckers" who pose as the victims of infirmity, are not wanted. The man who comes to Florida with the idea that he can get a living without work had better not come, neither should the person who has not some spare money, enough at least to pay his way for, say about six months or longer. Nowhere on the American Continent can the industrious, right-living man find a better country, a more congenial climate or a more responsive soil; nowhere can he make as good a living and create a competence for the future, with less labor and personal effort, as in Florida, if he but observe the laws of common sense and ordinary business requirements.

A Word of Caution.

To those persons who are contemplating a removal to Florida we offer a few words of caution, and advise them that, before they make any purchase of lands or even enter into any contract to purchase, that they first pay a visit to Florida and make a personal investigation of the lands offered them. No matter who it is that makes the tempting offer, make them wait till either you can investigate personally or through some undoubted reliable source. There is no scarcity of land in Florida. Millions of acres of good lands are still here to choose from. Unless this course is pursued, there can be no certainty that the interested homeseeker will get what he wants. But see what you buy first is our advice, then you will know what you are getting and your choice is likely to be satisfactory. Besides, it is due to both yourself and the seller that you use common sense methods and proper business precautions.

METEOROLOGICAL REPORT.

This report will be found included as usual, as far as the officials of the U. S. Weather Bureau are able to supply it. It is not in the usual complete form because of the disastrous fire in January last which destroyed the building in which the office was located. The destruction of the records is to be very much regretted. Much of it, of course, can never be replaced. The report is one of great value as well as interest to the people of our own State, and particularly useful to the thousands of persons who are contemplating a change of residence to Florida or making investments in the State.

The weather service at all seasons of the year is a great protection to the farmers, vegetable and fruit growers of the State through its system of storm and temperature warnings, as well as to those engaged in ocean commerce. It is also specially worthy of publication for the history it makes relative to the meteorology of the State. It supplies information of a character that is constantly in increasing demand and which cannot well be obtained by or distributed to those wanting such information as when given publication in our official reports. The report for 1914 follows the Agricultural Statistical report for 1913-1914.

DIVISION
OF
AGRICULTURE

LIVE STOCK GROWING AND FEEDING IN FLORIDA

By H. S. ELLIOT, Chief Clerk,

Department of Agriculture.

In discussing this subject we know that much has been said and written for and against the possibility of live stock production in Florida on a profitable basis. It is contended on the one hand that this State does not afford the native pasturage necessary to make the industry a success, and that the climate is not suited to the best development of animal life. Some show of reason is given for this contention because of the neglect on the part of the growers, of cattle in particular, in permitting their stock to take care of themselves from one year to another without attention, and to inbreed promiscuously for years without hindrance, and these statements comprise about the sum of objections raised against live stock production in Florida. They are simply claims based on past experiences of the range cattle growers, and not on consideration of true economic conditions, proven by facts as they exist and the experience of intelligent experiment by private individuals, live stock companies and the State Experiment Station.

Among the principal general reasons why Florida is adapted to successful live stock growing of all kinds, almost without limit, is its unlimited and unfailing water supply, which is absolutely essential to successful stock raising, as are its green pastures. Another equally important condition is the short period necessary for feeding and sheltering of stock as compared with other sections of the country. Another of equal, if not of greater importance is the adaptability and capacity of the soils of this State to the production of nearly all kinds of grains and forage crops at as small, if not less cost than any other section of the country. In all of this, the equable climate of the State has much to do, of course, but it is because of these advantages and conditions that Florida should and can compete with any, and excel most of the States as a live stock producing country.

Of the entire area of Florida there are approximately three million acres in farms and under farm control. There are approximately thirty million acres that can be used to a greater or less extent for the production of grasses, forage and grazing purposes for live stock of all kinds in every portion of the State. There is no question but that Florida has within her borders the greatest grazing region east of the Mississippi river, and consequently an almost boundless capacity for the production of all the forage crops necessary to maintain all the live stock that can be grown upon it.

The number of live stock of all kinds in the State is, in round numbers, 2,000,000, having a value of about $25,000,000. Instead of this small number, there should be not less than 20,000,000 head, and 10,000,000 head of them should be cattle; the State can easily maintain such a number.

If the vast area of idle lands in Florida and the South as well were put to this purpose with intelligent direction, there would be no necessity for the big packers of the West to go to Argentina for their meat to supply American consumers. There is land enough idle in the South, including Florida, to produce all the beef cattle, hogs and sheep necessary to supply the demands of the people of the United States and also about all of the export trade that this country can control. In all of this Florida should and can bear a very large and important part.

FLORIDA SOILS ADAPTED TO FORAGE PLANTS.

The soils of Florida embrace practically all of those best adapted to the various agricultural purposes. In the several sections of the State soils varying from stiff red clay with all of its gradations of the loam soils, is found in immense areas, and all of these with possibly one or two exceptions are productive soils, some of them to a high degree naturally, and all can be made so at reasonable cost by proper methods of control or management. On these soils are produced nearly all of the crops suited to the temperate zone and of the semi-tropics, for be it remembered Florida includes in a large degree the climate of both. In the soils above referred to, the reclaimable swamp and other overflowed and wet lands are included.

FORAGE PRODUCTS.

On the soils just discussed can be produced practically all of the forage crops necessary for pasture or for the making of hay or silage. Included in this are all of the sorghums, both saccharine and non-saccharine, all of the legumes, except possibly a small number of clovers, which can probably also be grown with aid of inoculation with bacteria. To give an idea of the number of these plants used for grazing, forage and hay-making that are adapted to Florida soils, we append the following list, viz.:

SORGHUMS.

NAME OF VARIETY.	Yield per acre of green forage in tons.	Yield per acre of grain in head, in pounds.
Red Kaffir Corn.........	3.968	1,187.50
Sirak	10.225	1,050.00
Honey	6.281	562.50
Sapling	5.900	550.00
Brown Durra	5.350	450.00
Minnesota Amber	8.612	975.00
Planter's Friend, No. 36	13.068	787.00
Orange	13.813	1,366.50
Gooseneck, Erect	16.907	793.00
Planter's Friend, No. 37.	16.318	887.50
Amber	10.461	1,033.50
Sumac	12.449	429.50
Shallu	11.556	2,112.50
White Kaffir	8.153	727.00
Gooseneck, Pendant	19,036	856.25
Collier	13.896	742.50
Red Amber	12.283	1,500.00
Cigne	12.450	900.00
Jerusalem Corn	8.204	458.00
Yellow Milo	9.487	900.00

CLOVERS, GRASSES AND VETCHES.

		Yield per acre in tons of Dry Hay per Season.
1	Hairy Vetch	2 to 3
1	Alfalfa	5 " 6
	Lespedeza	1 " 2
1	Burr Clover	2 " 4
	Crimson Clover	2 " 4
	Rhodes Grass	4 " 6
	Natal "	1 " 2
	Orchard "	1 " 2
	Bermuda "	1 " 2
	Crab "	1 " 2
	Tall Meadow Oat Grass	1 " 2
	Para Grass	2 " 4
	Herds or Red Top Grass	1 " 2
	Crow-foot Grass	1 " 2
	Millet	3 " 5
	Johnson Grass	3 " 6
	Rape, (never cut)	——

---

1 Should be inoculated.

LEGUMINOUS CROPS OTHER THAN CLOVERS.

All Cow or Field Peas.
Velvet Beans.
Soy Beans.
Beggar Weed.
Kudzu.
Peanuts.

The following table gives the average composition of a few of the best hays and will serve to further impress those interested with not only the capacity of the soils of this State to produce the most valuable forage and hay plants, but with their high quality and value, as feeding products.

The following tables gives the average composition of some of the best hays:

Dry Hay—	Water—	Ash—	Protein—	Carbohydrates— (Nitrogen-free extract.)	Crude Fibre—	Fat— (Ether extract)
Cowpea	11.9	8.4	14.4	41.2	21.5	2.5
Alfalfa	8.4	7.4	14.3	42.7	25.0	2.2
Soy Bean	11.3	7.2	15.4	38.6	22.3	5.2
Clover (Red) ..	15.3	6.2	12.3	38.1	24.8	3.3
Peanut Vine ..	7.6	0.8	10.7	42.7	23.6	4.6
Lespedeza	11.5	4.1	9.6	40.1	31.4	3.3
Timothy	13.2	4.4	5.9	45.0	29.5	2.5
Johnson Grass	10.2	6.1	7.2	45.9	28.5	2.1

Per Cent of Digestible Matter.

Cowpea			9.3	29.1	2.1	1.9
Alfalfa			10.6	28.2	10.7	0.9
Soy Beans			10.9	26.6	13.6	1.5
Red Clover			7.6	26.3	12.1	2.0
Peanut Vine ...			6.7	29.9	12.3	—
Lespedeza			7.6	31.0	—	1.8
Timothy			2.8	28.3	15.1	1.4
Johnson Grass.			3.2	24.8	16.5	0.8

Food Elements in Other Hays.

	Protein	Carbohydrates.
Beggarweed	16 per cent	69 per cent.
Cowpeas	16 per cent	67 per cent.
Velvet Bean	14 per cent	72 per cent.
Peanut	13 per cent	73 per cent.
Crowfoot Grass	8 per cent	75 per cent.
Crab Grass	7 per cent	79 per cent.
Timothy	6 per cent	82 per cent.
Millet	6 per cent	76 per cent.
Mexican Clover	5 per cent	79 per cent.

Showing Value of Some Hays.

Timothy	$20.00 per ton.
Velvet Bean	20.05 per ton.
Peanut	20.00 per ton.
Beggarweed	19.95 per ton.
Crab Grass	19.60 per ton.
Cowpea	19.50 per ton.
Mexican Clover	19.05 per ton.
Crowfoot Grass	19.00 per ton.
Millet	18.65 per ton.

PASSING OF THE RANGES.

The time has about passed when the growing of cattle on the ranges can be done profitably, because, mainly, of the cutting up of the vast tracts of prairie and wood lands and turning them into orchards or small farms; consequently it becomes necessary to change the method of live stock raising. Undoubtedly the change will be beneficial to the industry and be productive of greater profits, through the building up in both size and quality of the animal, for with the change will come about the substitution of better breeds of stock and a general grading up and improvement in the native stock. This applies to sheep and hogs as well as cattle.

BREEDS FOR UPGRADING.

We suggest that from a large number of improved breeds of cattle, that there are a number which have proven themselves well adapted to Florida conditions. These are the Short Horn or Durham, Hereford, Aberdeen, Angus, Red Polled and Devon. There are others also of great merit, but these are well known to be adapted to the conditions and climate in Florida, and besides they represent the very best beef producing animals in America.

By grading up with the best of native cows and thoroughbred bulls of the above mentioned breeds, it will require but a short time comparatively to bring about a complete change.

We have shown that our Florida soils are capable of and do produce all of the grasses, forage and hay plants necessary to support all of the live stock and more than we can raise. The next most important question is to determine the best method of feeding this forage to the stock. We, of course, can arrange to have the grazing always with us. Scientific experiment and experience have abundantly demonstrated in the past few years, that the best as well as the most economical method of feeding live stock, especially cattle, is in the form of silage, as well as roughage.

SUGGESTIONS AS TO MANAGEMENT OF LIVE STOCK.

Before giving consideration to the subject of silage and its feeding, we offer a few suggestions as to necessary points to be considered in stock raising; these are, that good pastures are essential to successful and profitable live stock production, especially where beef is the object.

Use pure-bred bulls for grading up the native stock, and be sure to select the best heifers for breeding purposes. Eradicate the ticks on the farm; the cost is not great. Use all coarse forage, such as straws and stalks in the fields to assist in carrying the herd of breeding cattle through the winter. When pastures get short wean the calves, and put them in the corn and pea fields while weaning and teach them to eat corn and cotton seed meal. After raising your cattle, finish them on the farm if possible. A mixture of cotton seed meal, hulls and pea vine hay is a good ration for fattening calves. Silage is the best kind of roughage for fattening any class of cattle. Give more care to the feeding of calves than of grown cattle. Corn silage is a cheaper and better feed for fattening cattle than cotton seed hulls.

Summer feeding on pasture is usually more profitable than feeding in winter. The use of corn in small amounts in addition to cotton seed meal has proven profitable while feeding steers on grass. In feeding your grain or other products in the form of silage to live stock, thus converting it into meat, you get a higher price for both and in addition add fertility to the soil through the manure. It converts the farm into a factory, so to speak, and it becomes the creator of a finished or more nearly finished product, instead of being the producer of mere raw material.

LIVE STOCK RAISING AS AN UPBUILDER OF RUN DOWN FARMS.

There are in some portions of the State large areas which have for many years been devoted to short cotton planting that through lack of proper farming systems and worse methods of crop cultivation, have been robbed of their fertility to the extent of practical ruin, that can be, through the aid of live stock growing, rehabilitated and restored to their original fertile condition. To these sections, live stock growing and feeding should prove a manifold blessing

SOME ADVANTAGES OF THE SILO.

All or nearly all of the forage crops previously mentioned herein can be made into silage either separately or in combination. The conversion of a crop into silage enables the maximum amount to be saved and fed and produces a greater per cent of feed than by any other method known. The silage assures a succulent feed for all the months of the year, regardless of favorable or unfavorable climatic conditions. When turned into hay green crops necessarily lose some of the available food material contained in them, but with the silo and the process of fermentation to which the silage is subjected, the food value is increased and much of the tough or woody parts are made available for the stock.

Corn is the best and principal silage crop, and with our practices offers the comparison most advantageous to the silo. If only the ears are gathered from an acre that produces say, thirty bushels, we save but little more than a ton, or about twenty-one hundred pounds. If this acre of corn is cut at the proper time and made into silage, it will easily furnish ten tons of excellent feed, and will often exceed these figures by several tons. The stalks and fodder usually left in the field to rot or blow away, will, with the aid of the silo, be made into splendid feed and eaten with relish by the animals. It will be readily seen that under the conditions described herein, relative to modern stock raising, that the use of the silo in the making and feeding of silage becomes a necessity from an economic standpoint and is a vast improvement over old and wasteful methods.

If a system somewhat on the lines herein suggested is put in practice by the live stock growers of Florida, the necessity to import beef from the West for Florida markets will cease.

To continue past (ancient) methods is the height of folly and wasteful in the extreme. Florida should export the best quality of beef; she can do so if she will.

MAKING AND FEEDING OF SILAGE.

In considering this subject we cannot do better than give place to the following article taken from Farmers' Bulletin No. 556, of the U. S. Department of Agriculture:

MAKING AND FEEDING OF SILAGE.

By T. E. Woodward, *of the Dairy Division.*

SOME POINTS IN FAVOR OF SILAGE.

Within the last 30 years silage has come into general use throughout the United States, especially in those regions where the dairy industry has reached its greatest development. Silage is universally recognized as a good and cheap feed for farm stock, and particularly so for cattle and sheep. There are several reasons for the popularity of silage.

1. More feed can be stored in a given space in the form of silage than in the form of fodder or hay.
2. There is a smaller loss of food material when a crop is made into silage than when cured as fodder or hay.
3. Corn silage is a more efficient feed than corn fodder.
4. An acre of corn can be placed in the silo at less cost than the same area can be husked and shredded.
5. Crops can be put in the silo during weather that could not be utilized in making hay or curing fodder.
6. More stock can be kept on a given area of land when silage is the basis of the ration.
7. There is less waste in feeding silage than in feeding fodder. Good silage properly fed is all consumed.
8. Silage is very palatable.
9. Silage, like other succulent feeds, has a beneficial effect upon the digestive organs.

10. Silage is the cheapest and best form in which a succulent feed can be provided for winter use.

11. Silage can be used for supplementing pastures more economically than can soiling crops, because it requires less labor, and silage is more palatable.

12. Converting the corn crop into silage clears the land and leaves it ready for another crop.

SILAGE CROPS.

Almost any green crop can be successfully made into silage if sufficient care is taken to force out the air from the material. On account of the difficulty, however, of expelling air from plants with a hollow stem, such as timothy, oats, and barley, these crops are rarely put in the silo.

CORN.

In all parts of the United States where the silo has come into general use the principal silage crop is corn. One reason for this is that ordinarily corn will produce more food material to the acre than any other crop which can be grown. It is more easily harvested and put in the silo than any of the hay crops, such as clover, cowpeas, or alfalfa. These crops are much more difficult to handle after being cut. Furthermore, corn makes an excellent quality of silage. Sorghum makes a sour silage, and the legumes, such as clover and alfalfa, are liable to rot unless special care is taken to thoroughly pack the silage and force out the air. The fermentations which take place in leguminous silage are more extensive and in soncequence the loss of food materials is greater than with corn.

The only objection which has been raised concerning corn silage is the fact that it contains insufficient protein to fully meet the requirements of animals to which it may be fed. Some persons have advised mixing clover, cowpeas, or alfalfa with the corn when it is being put into the silo in order to correct this deficiency of protein. Such a procedure is not to be advised, however, if it is at all possible to cure the clover or other crop into hay, and it usually is possible if hay caps are used. Since some dry forage should always be fed along with the silage, the leguminous hay would better be used in this way rather than by converting the crop into silage.

VARIETY TO PLANT.

The best variety of corn to plant is that which will mature and yield the largest amount of grain to the acre. since the grain is the most valuable part of the corn plant. The variety commonly grown in any particular locality for grain will also be the most satisfactory to grow for silage. As will be seen from the table below, taken from the First Annual Report of the Pennsylvania State College, 63 per cent of the digestible food materials present in the corn plant are found in the ears and 37 per cent in the stover.

Yield of Digestible Matter in Corn.

Constituent.	Yield per acre.		
	Ears.	Stover.	Total crop
	Pounds.	*Pounds.*	*Pounds.*
Protein	244	83	327
Carbohydrates	2,301	1,473	3,774
Fat	125	22	147
Total	2,670	1,578	4,248

CULTIVATION AND YIELD.

Corn for silage may be planted and cultivated in the same manner as when grown for grain. Weeds should be kept out, else they will be cut with the corn and may impair the quality of the silage. The yield of corn silage per acre will vary from 4 or 5 to 20 tons or more. A 50-bushel per acre crop of corn will yield about 8 to 12 tons of silage per acre, depending upon the amount of foliage and stalk that accompanies the ear. Southern varieties of corn as a rule carry a larger proportion of the plant in the form of stalk and leaves than do the northern-grown varieties.

TIME TO HARVEST.

Corn should be harvested for the silo at about the same time that it is harvested for fodder—that is, when the grain has become glazed and the lower leaves of the stalk have turned brown. The following table taken from the Eighth Annual Report of the New York Experiment Station will furnish valuable information as to the proper time to cut corn for the silo:

Chemical Changes During Growth of Corn Plant.

Yield per acre	Stage of Growth.				
	Tasseled July 30	Silked Aug 9.	Milk Aug. 21.	Glazed Sept. 7.	Ripe Sept. 23.
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Total yield.	18,045	25,745	32,600	32,295	28,460
Water	16,426	22,666	27,957	25,093	20,542
Dry matter...	1,619	3,078	4,643	7,202	7,918
Ash	138.91	201.30	232.15	302.48	364.23
Albuminoids .	239.77	436.76	478.69	643.86	677.78
Crude fiber...	514.19	872.93	1,261.97	1,755.85	1,734.04
Nitrogen-free extract	653.91	1,399.26	2,441.29	4,239.82	4,827.60
Fat	72.20	167.75	228.90	259.99	314.34

The table shows that there is a steady increase in the amount of dry matter and food ingredients in the corn plant up to the time it is ripe. Immature corn is a poor feed, whether fed fresh or as silage. The protein and carbohydrates especially undergo changes from the immature to the mature stage which increase their food value. Silage made from immature corn is not only less nutritious but also more acid than that made from more mature corn. The corn should not be allowed to become thoroughly ripe and dry, however, because the stalk and foliage are rendered more difficult to digest, and, besides, the corn can not be packed into the silo tightly enough to prevent "fire-fanging" without using excessive amounts of water. In case the corn is frozen before it is properly matured for cutting, it should be harvested at once, before it has had time to dry out to any great extent. Enough water should be added to replace that lost by evaporation through standing in the field after frosting.

SORGHUM.

Sorghum is readily made into silage. The only advantages which sorghum has over corn are that it will sometimes yield heavier on poor ground and that the operation of harvesting may extend over a greater period—that is, it stays in the right stage for harvesting longer than corn. Sorghum, however, makes a poorer quality of silage, being more acid, not so palatable, and less nutritious. Where corn yields well there is no advantage in growing sorghum.

CLOVER.

Clover is a successful silage crop yielding a palatable product high in protein. It does not pack so well as corn, so great care should be exercised in the tramping of the silage at the time of filling, and the depth of the silo should also receive particular attention. A shallow silo will not prove satisfactory. Clover should be chopped before siloing as a matter of convenience in feeding and also to secure more thorough packing, although it can be placed in the silo without chopping. Clover should be harvested at the same time as for making into hay—that is, when in full bloom and some of the first heads are dead. As stated elsewhere, it is usually inadvisable to make clover into silage if it can be made into hay, as is the case under most conditions. It is better practice to grow corn for silage and use the clover in the form of hay as a supplement to the silage.

COWPEAS, ALFALFA, AND SOY BEANS.

These crops can all be successfully made into silage by exercising the same precautions as with clover. They should be cut at the same time as for haymaking. However, it is ordinarily preferable, as with clover, to make them into hay rather than silage.

Other good silage materials are kafir corn, milo maize, teosinte, and beet pulp.

HARVESTING THE CROP AND FILLING THE SILO.

Harvesting the Corn.

The corn is cut for the silo either by hand or by machine. Hand cutting is practiced on farms where the amount of corn to be harvested is so small as to make the expense of purchasing a corn harvester too great to justify its use. Hand cutting is also resorted to through necessity when the corn is down or lodged in such a manner as to prevent the use of the machine. This method of cutting, however, is slow and laborious and there are probably few localities now where the purchase of a harvester would not be a profitable investment. In case the expense is considered too great to be borne by a single individual two or more neighbors might well arrange to purchase a partnership machine.

In using the harvester it will be found a great advantage to make the bundles rather small. This will take more time, but the extra expense will be more than offset by the ease of handling the bundles and in feeding them into the silage cutter. Two or three horses, the latter preferable, and one man will be required to run the harvester, and they should be able to cut about 6 acres a day. The harvester should not get so far ahead of the haulers that the corn will dry out to any considerable extent.

Hauling to the Cutter.

This is ordinarily done with the common flat hay frames. An objection to their use is that it is necessary to lift the green corn fodder to a considerable height in loading, which is hard work. A low-wheeled wagon is preferable to a high-wheeled one. A low-down rack quite commonly used in some ports of the United States can be easily made. The following are the directions for making this rack, taken from Farmers' Bulletin 292:

> The rack * * * consists of two 4 by 6 inch bed pieces, 18 or 20 feet in length, bolted together at one end to form a V. On top of these timbers is built a rack 6 feet in width. The bottom of this rack is about 8 feet long. The end boards are 4 feet high, built flaring so they do not quite touch the wheels. The apex of the V is suspended below the front axle of an ordinary farm wagon by means of a long kingbolt. The other ends are attached below the hind axle by U-shaped clevises. The materials needed in its construction are 80 board feet of 4 by 6 inch plank, 96 feet of boards 1 by 12 inches, 22 feet of lumber 2 by 4 inches, 1 long kingbolt, 2 stirrup rods, and bolts and nails.

The load should be as large as possible, especially when the haul is for some distance. This is a matter which is rarely given sufficient attention by persons filling silos, and in consequence the expense of filling becomes unnecessarily high.

CUTTING THE SILAGE.

The Cutter.

There are several different makes of silage cutters on the market that will give satisfaction. The capacity of the machine to be purchased is an important consideration which should not be overlooked. Many persons make the mistake of getting a cutter which is too small, thus making the operation of filling the silo very slow and interfering with the continuous employment of the entire force of men. It is better to get a machine large enough so that every one will be able to keep busy all the time. Another matter to be considered is the fact that the larger cutters are equipped with a self-feeding device while the smaller sizes are not. Such a device saves a great deal of labor. Other factors to be taken into account in purchasing a cutter are the amount of work to be done and the power available. Of course, for the filling of a very small silo it would not be wise to buy a large machine. Neither would it be advisable to overload the engine or motor by using a cutter which is too large for the power available.

The Elevator.

Two types of elevators are in use—the old-style chain carrier and the blower. The chain carrier requires less power, but is harder to set up and there is more litter around when it is used, especially in windy weather. For these reasons the blower is now fast displacing the carrier.

The blower should be placed as nearly perpendicular as possible so as to reduce to the minimum the friction of the cut corn upon the inside of the pipe and reduce the danger of clogging.

Power Required.

The power necessary to operate the cutter will depend upon its size and whether the elevator is a chain carrier or a blower and upon the rate of feeding. It is possible to feed slowly and to get along with less power than would be required with full feeding. As a rule, however, a person should have power sufficient to run the cutter at full capacity, and even, a little surplus is advisable. The power required for a cutter and blower, if a gasoline engine is used, is about 1 horsepower for each 1-inch length in the cutting cylinder; that is, a 15-inch cutter will take a 15-horsepower engine, an 18 inch cutter will require an 18-horsepower engine, and so on. If a steam engine is employed, the power should be at least two-thirds of that indicated for the gasoline engine.

Length to Cut.

The usual length of cutting varies from one-half to 1 inch. The latter is considered a little too long, since pieces of this length will neither pack so closely in the silo nor be so completely consumed when fed as will the shorter lengths. On the other hand, the longer the pieces the more rapidly can the corn be run through the cutter.

Packing the Silage.

Ordinarily the blower or carrier empties the cut corn into the top of the silo and there are one or more men in the silo to distribute and tramp the material. Unless there is some one to do this the cut material will be thrown too much in one place and the leaves, stalks, and grain will not be uniformly distributed throughout the silo. The sides should be kept higher than the center and much of the tramping done close to the wall.

Various contrivances have been used for distributing the silage. The one most to be recommended for this purpose, however, is a metal pipe similar to the one in which the cut corn is elevated, but put together loosely in sections. The corn from the blower passes down this pipe into the silo, and being loosely put together it can be swung so that the material can be placed anywhere in the silo. With this contrivance no work with a fork is necessary and one man can do the work of two or three and do it easier. There is very little loose material flying about in the silo and the work is much cleaner. Another advantage is a lessening of the danger of being struck by some foreign object which has passed up the blower pipe. Heavy knives of the cutter have been known to pass through the blower and into the silo. As has been mentioned, this pipe is put together in sections, so that as the silage rises in the silo the sections can be readily detached as required.

Adding Water.

In case the material has become too dry before it is put into the silo water should be added to supply the deficiency of moisture and so make the silage pack better. Unless it is well packed the silage will "fire-fang" or deteriorate through the growth of mold. Enough water should be added to restore the moisture content of the corn to what it would be if cut at the proper stage. The water may be added by running directly into the silo by means of a hose or by running through the blower. It is claimed that by running it into the blower the water is more thoroughly mixed with the cut corn.

It seems to be good practice, no matter what the condition of the corn, to thoroughly wet down the material at the top of the silo when through filling. This will help to pack the top layer and lessen the amount of spoiled silage on top.

Covering the Silage.

Several years ago it was a common practice to cover the silage with some material, such as dirt or cut straw, in order to prevent the top layer from spoiling. At present when any provision at all is made for this purpose it consists usually in merely running in on top cornstalks from which the ears have been removed. By this method some of the corn grain is saved. The heavy green cornstalks pack much better than straw does and so exclude the air more effectually. The top is thoroughly tramped and then wet down. Sometimes oats are sown on the top before wetting. The heat generated by the fermenting mass will cause the oats to sprout quickly and form a dense sod which serves to shut off the air from the silage beneath, and in consequence only a very shallow layer spoils.

Labor and Teams Required.

The labor and teams to be used will of course depend upon the help available, the length of haul, and the efficiency of the machinery. With plenty of help, a short haul, and good machinery the following distribution of labor might well be used:

1 man and 3 horses to bind the corn.
2 men to load the corn.
3 men and 6 horses to haul.
1 man to help unload.
1 man to feed the cutter.
1 or 2 men to work in the silo.
1 man to tend the engine, if steam is used.
Total, 10 or 11 men, 9 horses, and 3 wagons.

The least amount of help which it would be possible to work to advantage might be arranged as follows:

1 man and 3 horses to bind the corn.
1 man to help teamsters load.
3 men and 6 horses to haul and unload.
1 man to feed.
1 man in the silo.
Total, 7 men, 9 horses, and 3 wagons.

A good manager is required to so arrange the help that each man and team can do the most efficient work. Without careful attention to this matter the operation of filling the silo becomes needlessly expensive.

Cost of Harvesting and Filling.

It is not possible to set any definite figure as the cost of filling the silo because of the great variation in conditions in different parts of the country. But just in order to give some idea of the probable cost a few figures are taken from Farmers' Bulletin 292. The investigation reported in this bulletin included the work done upon 31 farms in Wisconsin and Michigan. The labor of each man was rated at 15 cents per hour and the same value placed upon each team of two horses. Engine hire was estimated at $4.50 per day, including the engineer. Twine was rated at 11½ cents a pound, coal at $5 a ton, and gasoline at 13 cents a gallon. The farmers owned their own cutters. In this investigation the cost per ton varied from 46 to 86 cents.

Investigations conducted by the Dairy Division during the past few years with 87 silos in various parts of the United States indicate the cost of filling to be an average of 87 cents per ton.

Cooperation in Silo Filling.

The high cost of silo-filling machinery makes it oftentimes advisable for several farmers to cooperate in the purchase of a cutter and engine, or at least a cutter, since an engine is easier rented than a cutter. By varying the time of planting in the spring each man can get his silo filled when the corn is at the proper stage of maturity. Besides this the farmers can help one another in filling, so that there need be a very small cash outlay.

TOTAL COST OF SILAGE.

As with the cost of filling the silo, no definite figure can be set as to the cost of silage. This will depend upon the yield per acre, the cost of growing an acre, and the cost of filling. Several years ago the cost was variously estimated at from $1 to $1.50 per ton. At present this is much too low. The before-mentioned data collected by the Dairy Division on the filling of 87 silos in various parts of the country show the cost of growing the silage crop to average $1.58 per ton. This added to the 87 cents, which represents the cost of filling, makes the total cost of the silage $2.45 per ton. The cost of the silage for the individual farms varied from $1.10 to $5.42 per ton. In general, it may be stated that $1.50 to $3.50 per ton represents the limits between which most of the silage is produced.

LOSSES OF FOOD MATERIAL IN THE SILO.

When any crop is made into silage certain fermentation takes place, which results in the production of a considerable amount of heat and the consequent loss of food material. The extent of this fermentation is dependent upon the amount of air in the silo. The more air there is present the higher will be the temperature of fermentation and the greater the loss of food ingredients. Fermentation will continue until all the oxygen of the air has been used up or has been displaced by carbon dioxid. In the deep silos of the present time the pressure is so great that very little air is left in the silo, consequently the losses of food ingredients are reduced to a minimum. As before mentioned, on account of the difficulty of pressing out this air in crops with hollow stems they are seldom put in the silo.

There have been some experiments conducted at the Wisconsin station which show that the losses in the siloing of corn are not nearly so great as in the field curing of corn fodder. According to Prof. Woll, in modern, well-built, deep silos the loss should not exceed 10 per cent. More food material can be saved by putting the corn crop in the silo than by harvesting and storing it in any other way.

FEEDING VALUE OF SILAGE.

Composition.

The composition of silage will, of course, vary according to the crop from which it is made, the degree of maturity of the crop, and other factors. The following figures, taken from Henry's Feeds and Feeding, represent the digestible nutrients in 100 pounds of average silage:

Crop.	Total dry matter.	Digestible.		
		Protein.	Carbohydrates.	Fat.
	Pounds.	Pounds	Pounds.	Pounds.
Corn	26.4	1.4	14.2	0.7
Sorghum	23.9	.1	13.5	.2
Red Clover ..	28.0	1.5	9.2	.5
Soy Bean	25.8	2.7	9.6	1.3
Cowpeas	20.7	1.5	8.6	.9

It will be observed that about three-fourths of the total weight of silage consists of water. It will also be noticed that both corn and sorghum contain a large amount of carbohydrates in proportion to the protein. Silage is a bulky, succulent feed with a wide nutritive ratio, and for these reasons it will give the best results when fed along with some other feed richer in dry matter and in protein.

Succulence.

It is quite important in the feeding of cattle that the ration include some succulent material such as fresh grass, root crops, or silage. A feed containing a large amount of natural water is not only more easily digested but is also more palatable and, besides, serves the useful purpose of keeping the whole system of the animal in a state of healthy activity. A silage-fed animal is rarely troubled with constipation or other digestive disturbances, the coat is noticeably sleek and soft, and the skin is soft and pliable. It is a well-known fact that a cow usually reaches her maximum production when she has access to a good pasture. The cheapest and best substitute for fresh pasture grass during the fall and winter is silage.

Palatability.

No rough feed is more palatable than good corn silage Sometimes, however, a cow will not eat silage readily until she has acquired a taste for it, which may require several days. But silage is not peculiar in this respect, for it has been observed that range horses or cattle shipped into the corn belt will refuse corn the first time it is offered to them. This quality of being palatable is a decided advantage for silage in that it induces a large consumption and promotes the secretion of digestive juices.

Relative Feeding Value.

The value of silage as a food may be best shown by comparing it with other feeds. The most accurate comparison which is available is found in Farmers' Bulletin 346. The figures given below are taken from this bulletin.

Energy Value of Various Feeds in Therms Per 100 Pounds of the Feed.

Corn Silage	16.56	Oats	66.27
Red Clover Hay	34.74	Linseed Meal	78.92
Timothy Hay	33.56	Cottonseed Meal	84.20
Mangel-wurzels	4.62	Wheat Bran	48.23
Corn	88.84		

These figures were obtained through experimentation with beef animals and are not claimed to be other than tentative and subject to correction later on. While they have not been prepared as a result of work with any kind of animals other than those for beef, it is thought that they are approximately correct when applied to sheep, horses, and dairy cows. At any rate they are the most reliable figures which we have at present.

From the table given it will be observed that clover hay is a little more than twice as valuable, pound for pound, as silage, that bran is three times as valuable, and that corn is more than five times as valuable. In other words, the feeding values of silage, clover hay, bran, and corn are in the approximate ratio of silage 1, clover hay 2, bran 3, and corn 5.

SILAGE FOR DAIRY CATTLE.

Silage has been found to be particularly well adapted to the dairy cow and as a consequence silos are more numerous upon farms devoted to dairying than upon any other kind of farms. In many sections silage has come to be the dairy farmer's main reliance for cow feed.

Supplementary Feeds.

While silage is an excellent feed it is not a complete one for dairy stock. It is too bulky and watery and contains insufficient protein and mineral matter to fully meet the requirements of the dairy cow. It should be combined with some leguminous hay such as clover, cowpeas, or alfalfa. These will tend to correct the deficiencies of the silage in dry matter, protein, and mineral constituents. A ration of silage and, say, alfalfa hay alone is satisfactory, however, only for cows which are dry or giving only a small amount of milk and for heifers and bulls. Cows in full milk require some more concentrated feed than hay or silage, else they can not consume enough feed to meet the demands of the body. The result will be that the cows lose in flesh and in milk flow.

Amount to Feed.

The amount of silage to feed a cow will depend upon the capacity of the animal to take feed. She should be fed as much as she will clean up without waste when consumed along with her hay and grain. Raise or lower the amount until the proper quantity is ascertained. Generally speaking, a good cow should be fed just short of the limit of her appetite. If she refuses any of her feed it should be reduced at once. The small breeds will take 25 or 30 pounds per day; the large breeds about 40; and the medium-sized ones amounts varying between.

Rations.

Ironclad directions for feeding cows can not be given In general, however, they should be supplied with all the roughage they will clean up with grain in proportion to butterfat produced. The hay will ordinarily range between 5 and 12 pounds per cow per day when fed in connection with silage. For Holsteins 1 pound of concentrates for each 4 pounds of milk produced will prove about right. For Jerseys 1 pound for each 3 pounds of milk or less will come nearer meeting the requirements. The grain for other breeds will vary between these two according to the quality of milk produced. A good rule is to feed seven times as much grain as there is butterfat produced.

The following rations will be found good:

For a 1,300-pound cow yielding 40 pounds of milk testing 3.5 per cent:

	Pounds.
Silage	40
Clover, Cowpea, or Alfalfa Hay	10
Grain mixture	10

For the same cow yielding 20 pounds of 3.5 per cent milk:

Silage	40
Clover, Cowpea, or Alfalfa Hay	5
Grain mixture	5

For a 900-pound cow yielding 30 pounds of 5 per cent milk:

Silage	30
Clover, Cowpea, or Alfalfa Hay	10
Grain mixture	11

For the same cow yielding 15 pounds of 5 per cent milk:

Silage	30
Clover, Cowpea, or Alfalfa Hay	8
Grain mixture	5

A good grain mixture to be used in a ration which includes silage and some sort of leguminous hay is composed of

	Parts.
Corn Chop	4
Wheat Bran	2
Linseed-oil Meal or Cottonseed Meal	1

In case the hay used is not of this kind some of the corn chop may be replaced by linseed or cottonseed meal. In many instances dried brewers' grains or crushed oats may be profitably substituted for the bran.

Time to Feed.

The time to feed silage is directly after milking or at least several hours before milking. If fed immediately before milking the silage odors may pass through the cow's body into the milk. Besides, the milk may receive some taints directly from the stable air. On the other hand, if feeding is done subsequent to milking the volatile silage odors will have been thrown off before the next milking hour. Silage is usually fed twice a day.

Many objections have been made to the feeding of silage; some condenseries even refusing to let their patrons use it. These objections are becoming less common, since milk from cows fed silage in a proper manner is in no way impaired; besides which there is nothing about silage that will injure in any way the health of the animals.

Feeding Frozen Silage.

Frozen silage must first be thawed before feeding. If it is then given immediately to the cows before decomposition sets in no harm will result from feeding this kind of silage; neither is the nutritive value known to be changed in any way.

Silage for Calves, Bulls, and Dry Cows.

Calves may be fed silage with safety when they are about 3 or 4 months old. It is perhaps of greater importance that the silage be free from mold or decay when given to calves than when given to mature stock. After the calves are weaned they may be given all the silage they will eat up clean. Yearling calves will consume about one-half as much as mature stock, that is, from 15 to 20 pounds a day. When supplemented with some good leguminous hay little, if any, grain will be required to keep the calves in a thrifty, growing condition.

There is a decided opinion among some breeders of dairy stock that a large allowance of silage is detrimental to the breeding qualities of the bull. Whether there is any scientific foundation for this opinion remains to be determined. Pending further investigations, however, it is advisable to limit the allowance to about 15 pounds of silage a day for each 1,000 pounds of live weight. When fed in this amount silage is thought to be a good, cheap, and safe feed for bulls. It should of course be supplemented with hay, and with a small allowance of grain also in the case of bulls doing active service or growing rapidly.

Cows when dry will consume almost as much roughage as when milking. Silage may well form the principal ingredient of the ration, in fact, with 25 to 40 pounds of silage and a small supplementary feed of clover, cowpea, or alfalfa hay, say 5 or 6 pounds a day, the cows will keep in good flesh and even make some gain. Cows in thin flesh should receive in addition a small amount of grain. Silage will tend to keep the whole system in a state of healthy activity and in this way lessen the troubles incident to parturition.

Silage for Summer Feeding.

One of the most trying seasons of the year for the dairy cow is the latter part of the summer and early fall. At this season the pastures are often short or dried up, and in such cases it is a common mistake of dairymen to let their cows drop off in flow of milk through lack of feed. Later they find it impossible to restore the milk flow no matter how the cows are fed. Good dairy practice de mands that the milk flow be maintained at a high point all the time from parturition to drying off. It becomes necessary, therefore, to supply some feed to take the place of the grass. The easiest way to do this is by means of silage. Silage is cheaper and decidedly more convenient to use than soiling crops.

The amounts to feed will depend upon the condition of the pastures, varying all the way from 10 pounds to a full winter feed of 40 pounds. It should be remembered in this connection that silage contains a low percentage of protein, so that the greater the amount of silage fed the greater must be the amount of protein in the supplementary feeds to properly balance the ration.

SILAGE FOR HORSES.

By George M. Rommel, *Chief of the Animal Husbandry Division.*

Silage has not been generally fed to horses, partly on account of a certain amount of danger which attends its use for this purpose, but still more, perhaps, on account of prejudice. In many cases horses have been killed by eating moldy silage, and the careless person who fed it at once blamed the silage itself, rather than his own carelessness and the mold which really was the cause of the trouble. Horses are peculiarly susceptible to the effects of molds, and under certain conditions certain molds grow on silage which are deadly poisons to both horses and mules. Molds must have air to grow and therefore silage which is packed air-tight and fed out rapidly will not become moldy. If the feeder watches the silage carefully as the weather warms up he can soon detect the presence of mold. When mold appears, feeding to horses or mules should stop immediately.

It is also unsafe to feed horses frozen silage on account of the danger of colic. This is practically impossible to avoid in very cold weather, especially in solid-wall silos. By taking the day's feed from the unfrozen center of the silo and chopping away the frozen silage from the edges and piling the frozen pieces in the center the mass will usually thaw out in time for the next feed.

Corn to be made into silage for horses should not be cut too green, as sour silage will result and may cause colic when fed. The corn should be well matured and cut when the grain is beginning to glaze. The silo should be filled rapidly and the corn should be vigorously tramped and packed while filling. At least three men should be inside the silo, moving constantly, two around the edges and the third across and around the center. This is by far the most important point in connection with feeding silage to horses, and the lives of the horses fed on silage may depend on the thoroughness with which the tramping is done. If properly done no danger is likely to result; if not properly done air pockets may form and cause the accumulation of a small mass of mold which the feeder may overlook but which might be sufficient to kill one or more horses.

The value of silage for horses is greatest as a means to carry them through the winter season cheaply or to supplement pasture during drought. As the danger of mold is greater in summer than in winter, silage should not be fed to horses in that season unless a large number of animals are getting it and the daily consumption is so large as to preclude the formation of mold on the surface.

To cheapen the ration of brood mares in winter no feed has more value than good corn silage. If the grain goes into the silo with the stover no additional grain is needed for brood mares, hay being the only supplementary feed necessary. If there is little grain on the corn the silage should be supplemented with 1 pound of old-process linseed-oil meal or cottonseed meal daily per 1,000 pounds live weight, sprinkled over the silage.

Horses to be wintered on a silage and hay ration should be started on about 5 pounds of silage daily per 1,000 pounds live weight, the grain and hay ration being gradually decreased as the silage is increased until the ration is 20 pounds silage and 10 pounds of hay daily per 1,000 pounds live weight. It will require about a month to reach the full feed of silage, but the period may be decreased somewhat, depending on the judgment and skill of the feeder.

Mares fed in this manner will be in splendid condition for foaling, and, so far as the writer's experience goes, the foals will be fully as vigorous, with just as much size and bone, as if the mares were fed the conventional grain and hay ration.

Work horses when idle can be wintered satisfactorily in this manner, but much silage is not recommended for horses at heavy work for the same reason that a driving horse can not do his best while on watery grass pasture.

The writer knows of cases where stallions receive a ration of silage, but has had no experience in feeding them in this manner. There seems no reason why silage should not be a valuable feed for stallions during the idle season.

Silage should also be useful for young horses, especially drafters, but here again the writer can not quote his own experience and experimental data are meager.

To summarize, silage is safe to feed to horses and mules only when it is made from fairly mature corn, properly stored in the silo. When it is properly stored and is not allowed to mold, no feed exceeds it as a cheap winter ration. It is most valuable for horses and mules which are not at heavy work, such as brood mares and work horses during the slack season. With plenty of grain on the cornstalks, horses will keep in good condition on a ration of 20 pounds of silage and 10 pounds of hay for each 1,000 pounds of live weight.

SILAGE FOR BEEF CATTLE.

By W. F. WARD, *Animal Husbandman in Beef Cattle Investigations.*

There is no roughage which is of more importance to the producer of beef cattle than silage. The value of silage to the beef producer varies considerably and is dependent upon a large number of other factors. If rough fodders are scarce or are high priced, if the grain is high priced, or if the grain is so near a good market that much of it can be readily sold, silage will have a greater value than if the opposite conditions exist. It is a great saver of grain regardless of whether it is to be fed to stock cattle or fattening cattle. It will lessen the grain feeding by practically the same amount as is contained in the silage. The value will also depend somewhat upon the kind of cattle to which it is to be fed. If there is an abundance of rough fodders which can not be marketed, silage will not be so valuable. But in a case of this kind the silage would prove more valuable if used for the calves and pregnant cows and the coarse fodders used for the other stock.

SILAGE FOR THE BREEDING HERD.

For wintering the entire breeding herd there is no roughage better than silage. All of the animals will relish a ration containing it and it will create a good appetite for all other feeds. Cows that are fed all of the silage they will consume along with clover hay will go through the winter in fine shape and make small gains. If the amount of silage is limited, a more economical method of wintering them will be to reduce the silage to a half ration, letting them have the run of a straw stack and feeding about 2 pounds of cottonseed meal or oil meal per day. Some dry coarse fodder or straw should always be kept before animals getting silage, as it reduces the amount of silage consumed and prevents the bowels from becoming too loose. The succulent feed will cause the breeding cows to give a good flow of milk even though the calf be born in midwinter, and a thrifty calf will result. If the silage is free from mold or rotten spots there will be no danger in feeding it to breeding cows.

Silage is especially beneficial for calves which have just been weaned. They take to this ration quicker than to dry feed and there is usually little loss in weight from the weaning. The silage should be supplemented with some good leguminous hay, as alfalfa, cowpea, or clover, and the calves should be given a small amount of grain A mixture of one-half corn chop and one-half cottonseed meal is excellent.

SILAGE FOR STOCK CATTLE.

Each farmer will have to plan the rations for his cattle according to the amount of the various feeds he has on hand. Stockers can be wintered on silage and some good hay, fodder, or straw, but this may not always be the most profitable. When hay is high priced and grain is reasonably cheap or plenty of silage is available, it may be more economical to omit the hay altogether. A ration of corn silage alone has often been profitable for thin cattle. Stockers which have been fed liberally all winter and made to put on good gains usually do not make as large daily gains when put on grass as do steers which have not been quite so well fed. The time the cattle are to be finished for market and the degree of fatness to be attained should govern to a large extent the method to be followed during the winter. When beeves are expected to sell high in the early summer and the steers are to be finished for market at that time, a heavy roughage ration with a small amount of grain should be fed during the winter months.

SILAGE FOR FATTENING ANIMALS.

Silage stands first in rank of all the roughage for finishing cattle. Formerly, during the era of cheap corn and other concentrates little attention was given to the roughage, as it was usually considered merely a "filler" and of very little economic value in feeding. No especial care was taken in selecting any particular kind, nor was the quality of it seriously considered. As the prices of the concentrated feedstuffs advanced, the feeder looked about for methods of cheapening the cost of producing beef and soon found this could be accomplished by using judgment in selecting his roughage with respect to the grain fed. This has continued until at the present time the roughage receives as much attention as the concentrated feed, and has been made to take the place of a large amount of the latter. The feeding of silage came into general use with the advent of expensive grain and is becoming more popular each year. With the present prices of feedstuffs there is hardly a ration used for feeding cattle which can not be cheapened by the use of this succulent feed. By combining it with other feeds the efficiency of the ration is increased to such an extent that the amount of the daily gains is invariably greater and the cost of producing a pound of gain is lessened The heaviest daily gains are usually made during the first stage of the feeding period, and silage can then be used to advantage in large quantities with a small amount of grain, but as the feeding progresses the amount of silage should be lessened and the grain increased. In some places the price of hay and stover is so high that the greater the proportion of silage used in the ration the more profitable is the feeding.

Conditions in general are such that any given ration will not suit a large number of farmers, nor will it be so profitable for some as it will for others, so each farmer must determine for himself just what combination of feeds will be most profitable for his use.

Rations Suitable for Florida Where Cottonseed Meal is of Moderate Price and Cowpea and Other Hays Are Raised on the Farm.

		Pounds.
(1)	Corn silage	35
	Cowpea hay	8
	Cottonseed meal or oil meal	7
(2)	Corn Silage	30
	Cottonseed hulls	12
	Cottonseed meal	7

BALANCED RATIONS FOR DAIRY COWS.

By John M. Scott.

In the lists of rations given below, home-grown feeds are separate from purchased feeds. The amount given in each ration is sufficient for one day's feed for a cow weighing 1000 pounds and giving about three gallons of milk per day. (Dairy cows in Florida usually weigh from 600 to 800 pounds.) For cows giving a heavier flow of milk, it will be necessary to increase the amounts of feed accordingly. No attempt has been made to estimate the cost of these rations, or to say which will be the cheapest, as the prices of feeds vary in different places. The amounts of each feed being given, it will be an easy matter for the dairyman to calculate the local cost of the different rations and in this way find out which will be the cheapest for him to use.

RATIONS OF HOME GROWN FEEDS.

(1)	Velvet beans in the pod	10 pounds
	Japansese cane, cured in shock	10 pounds
	Cowpea hay	8 pounds

(2)	Velvet beans in the pod	10 pounds
	Cottonseed meal	2 pounds
	Japanese cane	12 pounds
(3)	Velvet beans in the pod	8 pounds
	Cowpea hay	10 pounds
	Japanese cane	10 pounds
(4)	Corn	3 pounds
	Velvet beans in the pod	7 pounds
	Cowpea hay	9 pounds
	Japanese cane silage	20 pounds
(5)	Velvet beans in the pod	8 pounds
	Cowpea hay	10 pounds
	Sorghum, green	20 pounds
(6)	Velvet beans in the pod	8 pounds
	Cowpea hay	8 pounds
	Crabgrass hay	8 pounds
	Sweet potatoes (or cassava)	25 pounds

The above are well-known home-grown feeds, or feeds that can be grown at home. Feeds can be grown more cheaply than they can be bought on the market. In these rations, cowpea hay can be replaced by an equal weight of beggarweed hay, velvet bean hay; or any other good legume hay. Which of these hays should be used will depend largely on the cost of the hay on the market, or rather on what it will cost to produce it. One may be so situated as to be able to grow beggarweed hay, or velvet bean hay, to better advantage than cowpea hay. All of the hays in these rations are considered to be of good quality, cut at the proper stage of maturity, and properly cured.

RATIONS OF PURCHASED FEEDS.

(1)	Alfalfa hay	10 pounds
	Wheat bran	4½ pounds
	Shorts	4½ pounds
(2)	Alfalfa hay	10 pounds
	Wheat bran	9 pounds
	Crabgrass hay	13 pounds

(3)	Alfalfa hay	10 pounds
	Shorts	9 pounds
	Crabgrass hay	13 pounds
(4)	Alfalfa hay	10 pounds
	Wheat bran	6 pounds
	Beet pulp	10 pounds
(5)	Wheat bran	9 pounds
	Cottonseed meal	3 pounds
	Cottonseed hulls	20 pounds
(6)	Shorts	8 pounds
	Cottonseed meal	2½ pounds
	Hay (any non-legume)	15 pounds
(7)	Wheat bran	6 pounds
	Cottonseed meal	2½ pounds
	Beet pulp	10 pounds
	Timothy hay	7 pounds
(8)	Wheat bran	9 pounds
	Cottonseed meal	3 pounds
	Japanese cane	15 pounds
(9)	Corn	5 pounds
	Cottonseed meal	2½ pounds
	Cowpea hay	12 pounds
	Silage	30 pounds

It should be understood that the above rations are not necessarily to be fed in the exact quantities given above, but should be modified to suit local conditions or the actual conditions on each farm. They are given to show approximately the average amounts and character of feed that would be consumed daily by a 1,000-pound steer during the feeding period.

It is well to feed as near a balanced ration as possible without materially increasing its cost. Sometimes the prices of available feeds are such that a farmer is justified in deviating from the standard. Such conditions are illustrated by the use of some of the rations given above. The second ration shown for the South is an example, as that ration is very narrow, but in certain localities it is more profitable than one which is balanced by the use of high-priced carbohydrate feeds.

Two rations are shown for the West where kafir-corn silage is used. With some farmers it would undoubtedly be more profitable to use alfalfa hay as a substitute for cottonseed meal, while with others the purchase of the cottonseed meal would be more economical.

MISCELLANEOUS CONSIDERATIONS.

Silage is a quick finishing roughage in that it produces large daily gains and produces a glossy coat and a soft, pliable skin. Moreover, it can be used to advantage at times for carrying cattle for a longer time so as to pass over a period of depression in the market, or to carry the cattle along in thrifty condition so they can be finished at a later period.

For many years the belief was general that cattle which received silage as a major portion of the roughage would have to be kept in warm barns and not be exposed to the cold. While they do need protection from the cold winds and rains and need a dry place to lie down, it has been clearly demonstrated that warm barns are not only unnecessary but that fattened cattle make both larger and cheaper gains when fed in the open sheds than when confined in barns. Stocker or thin cattle receiving silage will of course need more protection than animals which are being fattened.

Silage can be profitably used to supplement the pastures for steers during a time of drought, when they are being finished for market, but it is still an open question whether it can always be used profitably for feeding to breeding cattle during such times.

The theory that silage-fed cattle shrink very heavily in shipping to market is erroneous. While the actual shrinkage during transit is sometimes greater, the fill taken at market is usually good, and if good judgment is used in preparing them for shipping the net shrinkage is no greater than for cattle which have been fed on dry feeds. For 36 hours previous to shipping nice bright hay and stover should be substituted for the silage in the ration.

The general impression that choice or prime carcasses can not be made by the use of succulent feed is equally untrue, as the silage-fed cattle usually make more desirable carcasses than cattle fed a similar ration, except that silage was replaced by one of the coarse fodders. There is no appreciable difference in the percentage of marketable meat that steers will dress out which have been finished on a silage ration and a dry ration. The meat seems equally bright and the fat as well intermixed with the lean.

If silage makes up the bulk of the roughage it will be necessary to haul large amounts of bedding into the sheds to keep the animals dry, as there is no waste in silage, or else make a cement floor and cover with bedding to absorb the urine and prevent the animals from slipping and to give them a warm place to lie down. When the enormous saving in the quality and amount of the feed is considered, this disadvantage does not seem so hard to overcome by the stockman who has the capital to put up the silo and pave his feed sheds or feed lots.

SILAGE FOR SHEEP.

By E. L. Shaw, *Animal Husbandman in Sheep and Goat Investigations.*

The use of this succulent feed for sheep has attracted the attention of most farmers only during the past few years. Although a few sheepmen fed silage many years ago with good results, most flock-masters have been slow in giving it a trial. Owing to the wonderful increase in the use of silos on farms, and owing to the cheapness of silage as compared with other succulent feeds, such as roots, farmers are constantly raising the question regarding the feeding of silage to sheep. A great deal has been said of its bad effects upon sheep, but these have arisen either because an inferior quality of silage was fed or on account of carelessness on the part of the feeder in not feeding it properly.

A good quality of silage is extremely palatable and can be fed to all classes of sheep with good results. It must be borne in mind, however, that silage which is either very sour, moldy, or frozen should not be fed.

The amount of silage reported in feeding trials varies from 1 to 5 pounds per head per day. The amount to feed depends upon the class of sheep and the character of the other feeds comprising the ration. As a general rule from 2 to 4 pounds per head per day is considered as much as should be fed.

Lamb feeders have found silage a very satisfactory feed, and the amount fed ranges from 1 to 3 pounds per day. Where lambs are on full feed of grain, such as corn, and are receiving a fair allowance of hay, they will, as a rule, only consume from 1 to 2 pounds per head per day

In feeding breeding ewes before lambing a daily allowance of from 2 to 3 pounds should be considered a maximum quantity. After lambing the amount can be slightly increased.

In feeding silage or any other succulent feeds it must be borne in mind that the value of such feeds to a large extent is to act as an appetizer and to keep the digestive system in good condition. Under ordinary conditions where silage is fed it should not constitute more than one half of the entire ration, and it should be fed with other feeds that will properly balance the ration for the purpose intended.

SILOS.

THE KIND OF SILO TO BUILD.

There are silos and silos. Nearly all of them will keep silage. Some of them cost more money than others

Some are, on account of material and construction, only temporary. Others are permanent. A man must decide for himself whether he will invest a smaller amount of money in a temporary silo that will last from ten to twenty years, or invest a larger amount of money in a permanent silo that will last his lifetime, and that of his children perhaps. However, before building a silo we should make some investigation of the various silos on the market, learning their relative costs and efficiency. A silo is not a piece of furniture, neither is it a piece of machinery. But a silo must have attention, just the same as if it were a piece of machinery. The very best silo may prove a failure if neglected. Hence, the things to determine upon are these: Build a silo. Build a good one. Take care of it.

THE STAVE SILO.

By far the greater number of silos in the State are of the wooden stave type. This is a good silo. It will keep silage with as little loss from spoiling as any silo on the market, but not better than some other silos. There are many different wooden stave silos put out by many different companies. Each company has a strong talking point for its particular silo. However, it should be remembered that the best are none too good. That is, the best silo that any company puts out is none too good. If a man has not money enough to buy the best grade of silo offered, he can be excused for taking an inferior one. But it is never economy to buy a cheap silo of an inferior quality. If possible, buy only the best grade of lumber, the one piece stave.

The wooden stave silo demands more attention in the summer time while it is empty than at any other time. Since the silo is usually empty in the summer time it is apt to be neglected. But during the summer when the weather is hot and dry the staves will shrink and the hoops get loose. If the nuts are not kept on tight the hoops may get so loose that the silo will fall down or "fall to staves." When the hoops and staves of a silo become loose, it sometimes does not take a very strong wind to blow it down, even if it is anchored.

A stave silo should be built or put up right. It should not lean. It should be perpendicular. If the silo leans, the silage will settle to one side, leaving a space between the silage and the opposite wall. Where there is not something else there will be air. The air getting into this space will spoil a lot of silage.

Again, if the summer is hot and dry and the hoops of the silo have been tightened several times, it will be necessary to loosen them when the silo is filled in the fall. If this is not done the moisture from the silage swelling the staves will cause them to "buck" in places, sometimes letting in the air, or break the hoops. In either case serious results will follow. When buying a stave silo, remember the instructions given by the company from whom it is bought. Even though some of us, it seems, do like to be "hum-bugged," we are not living in the age of gold bricks and fakes and fakers. Each company is trying to put out a good silo. They are all trying to "deliver the goods." Buy a good silo if you buy any, and follow instructions. For best results a thin coating of creosote should be applied to the inner wall of the silo once in two years. Never paint the inner wall of a wooden stave silo. If this is done, wood mold will likely form in the wood and rot the stave. Paint the outside wall. It will protect the wood from the weather and add to the appearance of the silo.

The stave silo as it comes from the company is ready to be put together. However, the purchaser must have prepared a foundation on which to set the silo. This foundation can be made of stone, brick or concrete. The latter is preferable. The wall of the foundation should be from eight inches to a foot in thickness, extending, from two to three feet into the ground, and from 1 to 1½ feet above the ground. A 32-foot continuous stave with a foundation of four feet makes a good combination for a silo 36 feet in height. It is a good practice to make the foundation wall a foot thick at the bottom, tapering to eight inches at the top, the slope being on the outside In this way the inner wall is kept perpendicular. After the wall is complete a floor of concrete should be laid. The floor should be concave, several inches lower in the center than around the wall. The cost of a stave silo varies according to the size and quality of lumber, etc. A stave silo of good quality, 16x32 feet, together with the foundation, will cost about $375.00.

THE SOLID CONCRETE SILO. (MONOLITHIC.)

This is one of the permanent silos. When built properly it will last longer than a lifetime. It will not blow over. No guy wires are necessary. It will not dry out and fall down. It will not burn down. If proper care is taken in the construction, this type of silo will keep silage perfectly. The question, "Will the solid concrete silo keep silage?" is growing obselete. Time was when the stave silo men objected to the solid concrete silo on the ground that it would crack and it would not keep the silage, that too great a per cent of silage would spoil in it. However, since we have learned how to build concrete silos there is less objection of this nature. Much that has been said against the concrete silo is not warranted. It is true that some concrete silos have cracked, and silage has spoiled in some. But if the solid concrete silo is reinforced in the right way it will not crack. If the proper proportion of cement, sand, and gravel or chats is used in the wall with enough water to make the mixture impervious to air this type of silo will preserve silage perfectly. One difficulty has been in not using enough cement. Another has been that of not getting the right amount of water in the mixture. If the mixture is too dry, there will be porous places that will admit the air. Again, if too much water is used the cement and sand will "run" leaving the gravel or chats, whichever is used, without enough cement to prevent cracking and to exclude the air. Some skill is required in building a concrete silo. However, any man who has had experience in making concrete walks, concrete watering troughs, etc., on the farm can build a concrete silo. If a man has had no experience in making things of concrete, he had better secure the services of some one who has had experience to build his concrete silo for him. He can employ men who know how to do concrete work and let them carry out his plans, or he can have the silo built by contract by a man who makes the building of concrete silos his business.

Regardless of who builds the silo, the farmer or a contractor, these two things must be remembered: First, use enough cement. Second, use enough reinforcing material. The mixture of cement, sand and gravel (instead of gravel, crushed rock or chats may be used) generally used is one of cement, two of sand and four of gravel. This proportion is generally designated thus: 1:2:4.

For reinforcing, woven wire has proven very successful. A woven wire fencing, 38 inch, No. 9 wire, with a 5 or 6-inch mesh, answers the purpose very well.

The following estimate of cement, sand, gravel and woven wire for a solid concrete silo, six-inch wall, 16x32 feet, may be of assistance in building such a silo:

Portland cement (mixture, 1:2:4)	220 sacks.
Sand	15 cu. yds.
Gravel	30 cu. yds.
Woven wire (38-inch fencing, 40 rods)	2,090 sq. ft.

The table given below, taken from bulletin 103, Missouri Experiment Station, gives the amounts of cement, sand and gravel for silos of different sizes:

Material for Silos of Varying Sizes.

	Silo 12 x 28 ft.	Silo 14 x 30 ft.	Silo 16 x 32 ft.
Cement, barrels	37	45	55
Sand, cubic yards	11	13	15
Gravel or stone, cu. yds..	21	26	30

The forms for building concrete silos can be homemade or bought. If the forms are made at home they will cost about $50. If they are bought, the price will vary. The steel forms on the market are serviceable, easily handled, and can be rented out for enough to pay for the first cost. However, in either case, whether homemade or bought, it is advisable sometimes for several men in a community to share equally in making or buying the forms. All can use them and the expense when shared in this way is not very great. The cost of a solid concrete silo, 16x32, six inch wall, will vary from $350 to $450, depending upon the price of labor and cement and the distance that material must be hauled.

The expense of maintaining the solid concrete silo is practically nothing. During the summer when the silo is empty the walls become very dry. For this reason the walls should be wet thoroughly before new silage is put in. This precaution should be taken with all concrete silos, and with stave silos as well. It will prevent the walls from absorbing moisture from the silage, causing it to mold. Just as the stave silo should have a treatment of creosote on the inside once in two years, so should the concrete silo have a thin coat of cement and water every two years. This should be of the consistency of whitewash. It will serve to stop up all pores and to keep the wall smooth.

THE CONCRETE BLOCK SILO.

It is not claimed that the concrete block silo will keep silage any better than will the solid wall type. However, the concrete block silo has one advantage over the monolithic type—i. e., the blocks can be made at times when other work on the farm is not pressing. Anybody can make the blocks for a concrete silo. Since the blocks can be made at leisure times and by cheap labor, and further, since the blocks are more easily handled than concrete, some men prefer this type rather than the solid wall type. The blocks are hollow (of dimensions to suit the builder) and are made with a groove in one side through which passes an iron rod for reinforcing. This type of silo must be well reinforced to prevent cracking. Strong iron rods are used for this purpose. There are a great many silos of this type in use in the States. The concrete block silo of a given size costs, on an average, about the same as the monolithic type, or a good stave silo.

THE GURLER SILO (PLASTERED).

This type of silo is in common use in Missouri and other States. It gets its name from Mr. H. B. Gurler, of Illinois. He was the first man to try it and advocate its use. The claim of this silo for recognition is on account of its low cost as compared to that of other temporary silos, and because native lumber can be used in its construction. It is a homemade silo.

The foundation is made of concrete extending from 1½ to 2 feet into the ground and the same distance above the ground. Before the foundations hardens a sill is laid in the top of the concrete. To this sill two by four scantlings or studdings are nailed. These studdings are set on the sill 18 inches apart. To the inside of the studding, running round and round, is nailed half-inch sheeting of native lumber. Either elm, sycamore, cottonwood, pine, cypress or oak will do. Inside of this laths are nailed. The laths can be homemade. But if they must be bought the steel laths are better. The laths should run with the sheeting. To the laths a half-inch layer of cement plaster is applied. When this is done the silo, though not complete, can be used. There should be a cement floor, concave, lower in the center than around the wall. In order to protect the inner wall, boxing should be put on the studding outside, and the boxing painted. Vents or holes should be made in the boxing below and in the inner wall above to allow a free passage of air between the walls. This will prevent wood mold from forming and destroying the sheeting. A roof should be put on to keep the rain or snow out in the winter time. Snow will not injure the silage. It is disagreeable to handle. A roof is necessary to keep out water in Florida, though not enough water to injure the silage is likely to fall into the silo in winter, but all silos should be covered in Florida.

This type of silo, when properly built, will keep silage perfectly. However, it is as stated obove, only a temporary silo. It will last from ten to fifteen years, according to the material used and the attention it receives It will last as long as the average stave silo. It will not dry out and collapse. There are no hoops to keep tightened. Where all the material for the Gurler silo must be bought, a silo 16x32 feet can be built for about $225. If native lumber sawed from timber on the farm can be used, the expense will be less. Many silos of this type and the size mentioned have been built for an expenditure ranging from $125 to $150.

Another type of silo very similar to the Gurler is in common use. Instead of putting on the laths and cement plaster, a layer of tar paper is used. Inside of this is put another thickness of half-inch sheeting. A silo *of* this kind is even cheaper than the Gurler. It will keep silage well and last from 10 to 12 years, maybe longer, depending, of course, on the material used.

THE SIZE OF SILO TO BUILD.

The diameter of the silo should be determined by the number of head of stock that must be fed, and the height should be determined by the number of days desired in the feeding period. It is necessary to feed from an inch and a half to two inches a day off of the top in order to keep the silage fresh and sweet. It will readily be seen that if the diameter is very great and the number of head of stock to feed is small there is a chance of having to take out of the silo each day more silage than the stock can eat. This, of course, would result in a great waste of feed. It is much better to have two small silos than one very large one, especially when the number of stock is small and the feeding period desired is long. Again, if two small silos are built in preference to one large one, one silo can be left undisturbed until needed, or perhaps can be had for summer use when pastures are short or feed scarce. In general, the following rule is a good one. "The height of a silo should never be less than twice the diameter." The taller the silo of a given diameter the greater the weight on a given area of surface and the greater the amount of silage it will hold. Not only will a tall silo hold proportionately more silage, but it will keep silage better. The greater weight serves to pack the silage more tightly and to exclude the air, one of the two agencies that cause silage to spoil.

Since a mature beef animal will eat about the same amount of silage in a day as a dairy cow of the same size, the following tables taken from Bulletin 103 of the Missouri Experiment Station are offered here. Table No. 1 will serve to give a better idea of the relation existing between the size of the silo to the length of the feeding period and the number of head of stock to feed. Table No. 2 will serve to show the capacity of silos of varying sizes:

Table No. 1.

Relation of Size of Silo to Length of Feeding Period and Size of Herd.

No. Cows in herd.	Feed for 180 days.			Feed for 240 days.		
	Estimated tonnage of silage consumed, tons.	Size of Silo.		Estimated tonnage of silage consumed, tons.	Size of Silo.	
		Diam. feet.	Height, feet.		Diam. feet.	Height, feet.
10	36	10	25	48	10	31
12	43	10	28	57	10	35
15	54	11	29	72	11	36
20	72	12	32	96	12	39
25	90	13	33	120	13	40
30	108	14	34	144	15	37
35	126	15	34	168	16	38
40	144	16	35	192	17	39
45	162	16	37	216	18	39
50	180	17	37	240	19	39

The following table gives further figures regarding the capacity of silos of different sizes:

Table No. 2.

Capacity of Silos of Varying Sizes.

Depth of silage, ft.	Inside diameter of silo in feet.				
	10	12	14	16	18
	Tons.	Tons.	Tons.	Tons.	Tons.
25	36	52	68	96	122
28	40	61	81	108	137
30	44	68	90	115	150
32	50	72	95	126	162
34	53	77	108	142	171
36	57	82	114	158	194

After ascertaining the capacity of silos of various sizes and learning the length of time the silage in each will last with a given number of animals to feed, our next question will probably be, "How many acres of corn are required to fill a silo of given dimensions?" The answer to this question can be found in the data given below. This data is taken from Bulletin 103, Missouri Experiment Station:

Average Yield of Silage Per Acre.

Yield of corn, bushels.	Yield of silage, tons.
30	6
40	8
50	10
60	12
80	16
100	20

It will be seen from the figures just given that corn yielding 50 bushels to the acre will make ten tons of silage to the acre. Quoting Professor C. H. Eckles, in the bulletin just mentioned, he states:

"Upon the basis of total food value 2½ tons of silage are equal to one ton of timothy hay. This means that a yield of 10 tons of silage per acre is equivalent in feeding value to 4 tons of timothy hay per acre. On the same basis, when corn is worth 50 cents per bushel a ton of silage is worth $3.35. Calculated in this way, an acre of corn yielding 50 bushels per acre when put into the silo is worth $33.50, while at 50 cents per bushel the grain is worth $25.00."

HOW TO DETERMINE THE WEIGHT OF SILAGE IN THE SILO.

Sometimes we would like to know just how many pounds or tons of silage remain in a silo after we have begun feeding. Feeders have been heard to say: "If I had known that my silage would run out before grass was good enough for pasture, I should have fed a little lighter." If the silage is partly used out of a silo and we wish to sell the remainder, we would like some method of computing the number of tons that we may have for sale.

The table given below shows the computed weight of well-matured corn silage at different distances below the surface, and the total weight to those distances, two days after filling. The table was compiled from Wisconsin Bulletin No. 59:

Depth of silage, feet.	Weight per Cubic foot of silage at different depths, lbs.	Total weight one square foot area to depth given, lbs.
1	18.7	18.7
2	20.4	39.1
3	22.1	61.2
4	23.7	84.9
5	25.4	110.3
6	27.0	137.3
7	28.5	165.8
8	30.1	195.9
9	31.6	227.5
10	33.1	260.6
11	34.5	295.1
12	35.9	331.0
13	37.3	368.3
14	38.7	407.0
15	40.0	447.0
16	41.3	488.3
17	42.6	530.9
18	43.8	574.3
19	45.0	619.7
20	46.2	665.9
21	47.4	713.3
22	48.5	761.8
23	49.6	811.4
24	50.6	862.0
25	51.7	913.7
26	52.7	966.4
27	53.6	1020.0
28	54.6	1074.6
29	55.5	1130.1
30	56.4	1186.5
31	57.2	1243.7
32	58.0	1301.7
33	58.8	1360.5
34	59.6	1420.1
35	60.3	1480.4
36	61.0	1541.4

ADDITIONAL INFORMATION ON THE METHODS OF CALCULATING SIZE AND COST OF SOME HOME MADE SILOS, AND OTHER VALUABLE AND NECESSARY DATA ON SILOS, FEEDS, ETC.

The concrete silo has the advantage over all others in permanency and stability. A well constructed concrete silo will last indefinitely; there is no danger of its blowing or burning down, rotting out, or being attacked by vermin. Little attention is required to keep it in good condition. The chief objection to it is, its cost. In the end it is cheapest.

COST OF SILOS.

Recent data on the cost of home-made silos collected from all parts of the country show the following relative cost of the three types:

Type of silo.	Number of silos	Average capacity, tons.	Average cost.	Average cost per ton capacity.
Concrete:				
100 tons or less.......	71	71	$220.47	$ 3.10
101 to 200 tons.......	50	135	348.68	2.59
More than 200 tons...	23	219	446.42	2.04
Total concrete....	144	117	301.08	2.58
Modified Wisconsin	8	116	185.52	1.61
Stave:				
100 tons or less.......	25	63	118.40	1.87
Over 100 tons........	16	129	187.46	1.45
Total stave.......	41	89	145.35	1.63

The following table will show the proper diameter of the silo for herds of different sizes to be fed different amounts for winter feeding, when 2 inches of silage are removed daily:

Relation of size of herd to diameter of silo for winter feeding (on basis of 40 pounds of Silage per cubic foot.)

Inside Diameter of silo.	Quantity of silage in depth of 2 inches.	Number of animals that may be fed, allowing—			
		40 pounds per head.	30 pounds per head.	20 pounds per head.	15 pounds per head.
Feet.	*Pounds.*				
10	524	13	17	26	35
11	634	16	21	31	42
12	754	19	25	37	50
13	885	22	29	44	59
14	1,026	25	34	51	68
15	1,178	29	39	59	78
16	1,340	33	44	67	89
17	1,513	38	50	75	101
18	1,696	42	56	85	113
20	2,094	52	70	104	139

A 900-pound cow will ordinarly consume 30 pounds of silage a day; a 1,200-pound cow about 40 pounds. Yearlings will eat about one-half as much as mature animals; fattening cattle, 25 to 35 pounds for each 1,000 pounds live weight. A sheep will take about one-eighth as much as a cow. Horses should be limited to 15 to 20 pounds daily.

In general, the depth of the silo should not be less than twice nor more than three times the diameter. The greater the depth the better the silage, on account of the pressure from above. If less than 24 feet in height the quality of silage will not be the best. A very great height, however, is to be avoided on account of the excessive amount of power required to elevate the cut corn into the silo.

CAPACITY OF ROUND SILOS.

Approximate Capacity of Cylindrical Silos, for Well-Matured Corn Silage, in Tons.

(From Modern Silage Methods.)

Height of Silo Inside, Feet.	Inside Diameter of Silo, Feet.											
	8	10	11	12	13	14	15	16	17	18	19	20
20	18	30	36	45	51	60	66	—	—	—	—	—
21	19	31	39	48	54	63	71	—	—	—	—	—
22	20	33	41	50	57	66	76	87	—	—	—	—
23	22	34	43	52	60	70	80	91	—	—	—	—
24	23	36	45	55	64	73	85	95	104	120	122	—
25	24	38	48	57	68	77	90	99	110	125	129	145
26	25	40	50	60	71	80	94	103	116	130	137	155
27	27	42	52	63	75	85	98	107	121	136	145	161
28	28	44	54	66	79	90	102	111	126	140	152	170
29	30	46	56	70	83	95	106	116	132	145	160	177
30	31	48	58	75	86	100	110	120	136	150	168	185
31	33	50	62	79	90	105	114	125	141	156	176	193
32	35	53	66	84	94	110	118	131	148	162	184	200
33	36	55	69	89	98	115	123	137	155	169	192	208
34	37	58	73	94	102	120	131	143	162	175	200	217
35	39	61	77	100	106	125	136	149	169	183	209	226
36	40	64	82	105	110	130	139	155	176	190	218	235
37	41	67	86	109	115	135	144	161	183	200	227	245
38	43	70	89	114	119	140	151	167	190	212	236	256
39	45	73	95	118	124	145	157	173	197	220	245	267
40	47	75	98	121	129	150	165	180	204	228	255	279
41	—	77	101	125	134	155	170	187	211	236	262	290
42	—	80	104	128	139	160	176	193	218	244	270	300
43	—	—	—	132	144	166	181	201	225	252	280	310
44	—	—	—	135	150	171	188	207	233	261	289	320
45	—	—	—	—	—	176	195	215	240	269	298	330
46	—	—	—	—	—	182	200	222	247	277	307	340
47	—	—	—	—	—	—	—	229	254	285	316	350
48	—	—	—	—	—	—	—	236	261	293	325	361
49	—	—	—	—	—	—	—	—	—	301	334	371
50	—	—	—	—	—	—	—	—	—	310	344	382

Table Showing Required Acreage and Stock Feeding capacity for Silos of Various Sizes.

(From Modern Silage Methods).

Dimensions.	Capacity in Tons.	Acres to Fill. 15 Tons to Acre	Cows it will keep 6 mos., 40 lbs. Feed per day.
10 x 20	30	3.	8
10 x 24	36	3.	10
10 x 28	44	3.	11
10 x 32	53	3.4	14
10 x 40	75	4.6	19
12 x 20	45	3.	11
12 x 24	55	3.2	13
12 x 28	66	4.1	15
12 x 32	84	5.	20
12 x 40	121	7.3	27
14 x 20	60	4.2	15
14 x 22	66	4.5	17
14 x 24	73	4.7	19
14 x 28	90	5.6	22
14 x 32	110	6.7	27
14 x 40	150	9.2	37
16 x 24	95	6.2	24
16 x 28	111	7.2	29
16 x 32	130	8.7	35
16 x 40	180	12.	49
18 x 30	150	10.2	41
18 x 36	190	13.	50
18 x 40	229	15.3	62
18 x 36	277	18.8	77
20 x 30	185	12.5	50
20 x 40	279	18.8	77
20 x 50	382	25.5	104
20 x 60	500	32.	136

APPROXIMATE COST OF DIFFERENT KINDS OF SILOS.

The cost of a silo will depend on local conditions as to price of labor and materials; how much labor has to be paid for; the size of the silo, etc. The comparative data for the cost of two round silos, 13 and 25 feet in diameter, and 30 feet deep, is given by Prof. King, as shown in the following table:

(From Modern Silage Methods).

Kinds of Silo.	15 Feet Inside Diameter.		25 Feet Inside Diameter.	
	Without Roof.	With Roof.	Without Roof	With Roof.
Stone Silo	$ 151	$ 175	$ 264	$ 328
Brick Silo	243	273	437	494
Brick-lined Silo, 4 inches thick	142	230	310	442
Brick-lined, 2 in. thick	131	190	239	369
Lathed and plastered Silo	133	185	344	363
Wood Silo with Galvanized Iron	168	185	308	432
Wood Silo with Paper	128	222	235	358
Stave Silo	127	183	136	289
Cheapest Wood Silo	101	144	195	240

The following rule for feeding good dairy cows is a safe one to be guided by: Feed as much roughage (Succulent feeds like silage or roots, and hay) as the cows will eat up clean, and in addition, 1 pound of grain feed (concentrates) a day per head for every pound of butter fat they produce in a week (or one-third to one-fourth as many pounds as they give milk daily.

The farmer should aim to grow protein foods like clover, alfalfa, peas, etc., to as large extent as practicable, and thus reduce his feed bill.

The following table gives actual chemical analysis of the products mentioned and includes the entire contents of the various feeds. The next table shows the average amount of digestible nutrients in the more common American fodders, grains and by-products, and is the table that should be used in formulating rations. The table gives the number of pounds of digestible nutrients contained in 100 lbs. of the feeds and these figures can, therefore, be used in figuring out the amount of digestible nutrients in any given amount of a food material.

Average Composition of Silage Crops of Different Kinds, in Per Cent.

(From Modern Silage Methods).

	Water	Ash.	Crude Protein	Fiber.	Nitrogen free Extract.	Ether Extr'ct.
Corn Silage, Mature Corn	73.7	1.6	2.2	6.5	14.1	.9
Immature Corn .	79.1	1.4	1.7	6.0	11.0	.8
Ears removed...	80.7	1.8	1.8	5.6	9.5	.6
Clover Silage ...	72.0	2.6	4.2	8.4	11.6	1.2
Soja Bean Silage	74.2	2.8	4.1	9.7	6.9	2.2
Cow-pea Vine Silage	79.3	2.9	2.7	6.0	7.6	1.5
Field-pea Vine Silage	50.0	3.6	5.9	13.0	26.0	1.6
Corn cannery refuse Husks ...	83.8	.6	1.4	5.2	7.9	1.1
Corn cannery refuse Cubs	74.1	.5	1.5	7.9	14.3	1.7
Pea can'y Refuse	76.8	1.3	2.8	6.5	11.3	1.3
Sorghum Silage.	76.1	1.1	.8	6.4	15.3	.3
Corn-soja Bean Silage	76.0	2.4	2.5	7.2	11.1	.8
Millet-soja Bean Silage	79.0	2.8	2.8	7.2	7.2	1.0
Rye Silage......	80.8	1.6	2.4	5.8	9.2	.3
Apple Pomace Silage	85.0	.6	1.2	3.3	8.8	1.1
Cow-pea and Soja Bean mixed	69.8	4.5	3.8	9.5	11.1	1.3
Corn kernels ...	41.3	1.0	6.0	1.5	46.6	3.6
Mixed grasses (Rowen)	18.4	7.1	10.1	22.8	36.0	5.7
Brewers' Grain Silage	69.8	1.2	6.6	4.7	15.6	2.1

Analysis of Feeding Stuffs, of the More Common American Fodders, Grains and By-Products.

(From Hoard's Dairyman).

Name of Feed.	Dry Matter in 100 Lbs.	Digestible Nutrients in 100 Pounds.		
		Protein. Lbs.	Carbohydrates. Lbs.	Ether Extract (Crude Fat) Lbs.
Green Fodders.				
Pasture Grasses, mixed.	20.0	2.5	10.2	0.5
Fodder Corn	20.7	1.0	11.6	0.4
Sorghum	20.6	0.6	12.2	0.4
Red Clover	29.2	2.9	14.8	0.7
Alfalfa	28.2	3.9	12.7	0.5
Cow Pea	16.4	1.8	8.7	0.2
Soja Bean	24.9	3.2	11.0	0.5
Oat Fodder	37.8	2.6	18.9	1.0
Rye Fodder	23.4	2.1	14.1	0.4
Rape	14.0	1.5	8.1	0.2
Peas and Oats	16.0	1.8	7.1	0.2
Beet Pulps	10.2	0.6	7.3	——
Silage				
Corn	20.9	0.9	11.3	0.7
Corn Wisconsin Analyses	26.4	1.3	14.0	0.7
Sorghum	23.9	0.6	14.9	0.2
Red Clover	28.0	2.0	13.5	1.0
Alfalfa	27.5	3.0	8.5	1.9
Cow Pea	20.7	1.5	8.6	0.9
Soja Bean	25.8	2.7	8.7	1.3
Dry Fodder and Hay.				
Corn Fodder	57.8	2.5	34.6	1.2
Corn Fodder, Wis. Anal.	71.0	3.7	40.4	1.2
Corn Stover	59.5	1.7	32.4	0.7
Sorghum Fodder	59.7	1.5	37.3	0.4
Red Clover	84.7	6.8	35.8	1.7
Alfalfa	91.6	11.0	39.6	1.2
Barley	85.2	6.2	46.6	1.5
Blue Grass	78.8	4.8	37.3	2.0
Cow Pea	89.3	10.8	38.6	1.1
Crab Grass	82.4	5.7	39.7	1.4
Johnson Grass	87.7	2.4	47.8	0.7
Marsh Grass	88.4	2.4	29.9	0.9
Millet	92.3	4.5	51.7	1.3

Oat Hay	91.1	4.3	46.4	1.5
Oat and Pea Hay	85.4	9.2	36.8	1.2
Orchard Grass	90.1	4.9	42.3	1.4
Prairie Grass	87.5	3.5	41.8	1.4
Red Top	91.1	4.8	46.9	1.0
Timothy	86.8	2.8	43.4	1.4
Timothy and Clover	85.3	4.8	39.6	1.6
Vetch	88.7	12.9	47.5	1.4
White Daisy	85.0	3.8	40.7	1.2
Grain and By-Products.				
Barley	89.1	8.7	65.6	1.6
Brewers' Grains, dry	91.8	15.7	36.3	1.6
Brewers' Grains, wet	24.3	3.9	9.3	1.4
Malt Sprouts	89.8	18.6	37.1	1.7
Buckwheat	87.4	7.7	49.2	1.8
Buckwheat Bran	89.5	7.4	30.4	1.9
Buckwheat Middlings	87.3	22.0	33.4	5.4
Corn	89.1	7.9	66.7	4.3
Corn and Cob Meal	89.0	6.4	63.0	3.5
Corn Cob	89.3	0.4	52.5	0.3
Corn Bran	90.9	7.4	59.8	4.6
Atlas Gluten Meal	92.0	24.6	38.8	11.5
Gluten Meal	88.0	32.1	41.2	2.5
Germ Oil Meal	90.0	20.2	44.5	8.8
Gluten Feed	90.0	23.3	50.7	2.7
Hominy Chop	88.9	7.5	55.2	6.8
Starch Feed, wet	34.6	5.5	21.7	2.3
Cotton Seed	89.7	12.5	30.0	17.3
Cotton Seed Meal	91.8	37.2	16.9	8.4
Cotton Seed Hulls	88.9	0.3	33.1	1.7
Cocoanut Meal	89.7	15.6	38.3	10.5
Cow Peas	85.2	18.3	54.2	1.1
Flax Seed	90.8	20.6	17.1	29.0
Oil Meal, old process	90.8	29.3	32.7	7.0
Oil Meal, new process	89.9	28.2	40.1	2.8
Cleveland Oil Meal	89.6	32.1	25.1	2.6
Kaffir Corn	84.8	7.8	57.1	2.7
Millet	86.0	8.9	45.0	3.2
Oats	89.0	9.2	47.3	4.2
Oat Feed or Shorts	92.3	12.5	46.9	2.8
Oat Dust	93.5	8.9	38.4	5.1
Peas	89.5	16.8	51.8	0.7
Quaker Dairy Feed	92.5	9.4	50.1	3.0
Rye	88.4	9.9	67.6	1.1
Rye Bran	88.4	11.5	50.3	2.0
Wheat	89.5	10.2	69.2	1.7
Wheat Bran	88.1	12.6	38.6	3.0
Wheat Middlings	87.9	12.8	53.0	3.4
Wheat Shorts	88.2	12.2	50.0	3.8

OTHER REASONS FOR RAISING LIVE STOCK.

From earliest times man has owned flocks and herds of live stock. It has been from time immemorial one of the most universal and profitable industries. In fact it was in ancient times, as it is now, the great necessity for many's comfort and support; it was his greatest source of livelihood, as well as of wealth, being his chief occupation. At present live stock is growing scarcer all the time; already this year the number of hogs has decreased over ten per cent and cattle over twelve per cent as compared with last year. The short supply has increased the demand and, consequently, the value also.

Another point not usually considered is, that our lands are as yet, cheap by comparison, and therefore an additional reason why live stock production in Florida must be profitable. And another is that the condition of the wreck and ruin that is blighting humanity across the seas, is destroying millions of live stock that must be replaced either for man's active physical use, or food. The devastation that follows in the wake of war always increases the demand for the necessities of life. It will be doubly true in this instance because of the magnitude of the occasion. Therefore, grow cattle, hogs, sheep, horses and mules. All that can be grown, will be in demand in the near future, and grow them by modern methods, herein suggested. The present opportunity for this industry is without example in recent times.

CONCLUSION.

In the foregoing pages we have endeavored to convince those interested in this subject, of the ability of this State to produce live stock successfully and profitably, and to show how this industry can be maintained. There can be no reasonable doubt of its practicability. We have the soils to produce the grasses, forage crops and grain crops; a climate favorable throughout the year, a blessing which we have not yet even begun to appreciate at its full value, yet it is one of the most marked and singular advantages of the State when it is realized that, in more northerly States, live stock must be housed and fed six to eight months of the year. In any part of Florida three months is ample time. In the not distant past, Florida shipped a large number of cattle to Cuba and other nearby countries. These were generally range stock, but in recent years these countries have to a great extent supplied their own market. The stock ranges of those times are practically passed, for good, and it is well that it is so. In the past it may have been good business policy to adopt the methods then pursued, but that which may have been sound policy in one condition of affairs may be just the reverse in another. We have never availed ourselves of the full natural resources with which our State is blessed. On the contrary we have either overlooked or wasted them. It behooves us to turn our errors to good account, and when we have availed ourselves of these natural resources, have grasped the real meaning of new ideas and adopted modern methods of agricultural and industrial science, we will quickly attain a degree of prosperity which will make our State a marvel of even this progressive age.

CANE GRINDING AND SYRUP MAKING.

By C. K. McQUARRIE,

Assistant Superintendent Farmers' Institute.

The Sugar Cane is one of the oldest farm crops in this State of which we have any record. It dates from the earliest settlement of the country on the East Coast. The Jesuit Fathers imported the seed-cane from the West Indies, where it had been extensively grown as early as the year 1518. It was first brought over by Columbus, on his second voyage in 1493. But the methods of growing the crop and the extraction of the juice for sirup-making have not been much improved upon by the general farmer in all the years since then. This explains the lack of popularity of this crop as a money-maker. With proper cultural methods and the use of imported mills and evaporators, sugar cane can be made one of the most profitable crops that any of our farmers can grow. It is suitable for all sections of our State, as it thrives under proper treatment on all kinds of soil, from our thin black-jack land to our heavy hammocks. After a number of years of practical experience with this crop, our preference is for high pine lands with a red clay sub-soil.

SOIL PREPARATION.

In the natural course of crop rotation, sugar cane should follow a sweet potato crop which has been liberally fertilized with stable manure. This would put a great amount of humus in the soil, and this is necessary in growing a cane crop. Failing to get this rotation, the next best would be to grow velvet beans as a preceding crop, and have been grazed off by live stock. But whatever rotation we practice, and on whatever kind of soil we grow sugar cane, we should take care that the soil is put in the best condition possible by deep plowing and thorough pulverization. On old land that has been in cultivation for a number of years, we should use a subsoiler, in addition to deep plowing by either a turning or disc plow. This subsoiler should immediately follow the other plow in the same furrow, using two teams at the same time. Above all, we should see that our land is clear of stumps; for one cannot conduct profitable farming on stumpy land, because improved tools cannot be used. If one has to use the old antiquated tools, he is not earning the wages he would were he to use modern implements. Along this line I would like to remark that, as a class, farmers never figure the wages per day they are earning when making a crop, which ought to be the one thing which they should have in view. And another thing they overlook is the most profitable crops to grow. For instance, it is a well-known fact that one acre of a good crop of sugar cane yielding about four hundred gallons of sirup (which is below the average) will put more money into the farmer's pocket (and with less than one-fourth the labor) than will fifteen acres of cotton, even if sold at ten cents a pound and producing the average crop of two hundred and twenty pounds of lint per acre.

The land intended for sugar cane should be plowed late in the fall, and all decayed vegetable matter left over from previous crops plowed under to form the necessary humus. This plowing should be completed before the first of January. If washing rains should occur through January and February, soil that is deeply plowed will not be affected by them; but, after these rains, if a dry period should come, the crust on the land should be broken by running a cultivator or weeder over it, so as to form a soil mulch and prevent evaporation of soil moisture, and also to aerate the soil. Some of our most progressive farmers sow rye on land intended for cane, and this acts as a winter cover crop. This practice is especially recommended where the land is rolling and subject to washing, as the rye roots help to bind the soil, and it is an easy matter to plow in the young rye when cultivation of the cane begins.

FERTILIZER.

Fertilization is an important point for a successful crop. The necessary plant foods must be supplied in proper proportions to get the best results. The analysis of the sugar cane crop shows that it is a heavy feeder on ammonia and potash. It does not require much phosphoric acid. It is a difficult matter to set down a rigid formula to be observed in all cases, because every farmer's soil differs from those of his neighbors in so many ways, in moisture, or in chemical and physical conditions, that considerable latitude must be allowed. Under ordinary conditions, on soil plowed not less than ten inches deep, we would apply not less than one thousand pounds per acre of a fertilizer analyzing 5 per cent. Ammonia, 4 per cent. Phosphoric Acid, and 10 per cent. Potash. In the application of this fertilizer, care should be exercised to apply it broadcast on freshly worked soil as uniformly as possible, and to mix it thoroughly with the soil by harrow, weeder or cultivator. This had better be done a week or so before planting the seed-canes. The composition of this fertilizer should be along the lines of slow availability, particularly the ammonia ingredients of it. High grade cotton seed meal is really the most suitable raw material for the purpose; because, being an organic fertilizer, it takes longer in forming the necessary plant food, and as the cane crop is a long-season crop, this suits it best. The source of potash should be the sulphate, because the chlorine in muriate and kainit injures the flavor of the sirup to a certain extent. The method, in general use, of applying the fertilizer in the furrow is not to be recommended; because in so doing the fertilizer is all in one place, which prevents the healthy action of the root system of the cane. Our farmers in most cases overlook the fact that the root system of every crop is the foundation on which the crop is made, and if the method of fertilizer application is towards the retarding of the root system, the results in production will not be so satisfactory as if the fertilizer was broadcasted all over the soil and thoroughly mixed in before planting the seed-cane. We therefore urge upon farmers the necessity of broadcasting all the fertilizer.

PLANTING.

When ready to plant the crop, lay off furrows six inches deep, six feet apart. In these furrows plant the canes, cut in three to four-joint lengths, laying them in the furrow so as to lap a few inches. Cover slightly at first, gradually working soil into this furrow in further cultivation. If the seed-cane is covered deeply at first, as is often done, the probability of getting a good stand is lessened; though a deep furrow should be made, so as to insure, as far as possible, the deep rooting of the crop. This prevents its blowing down in wind storms late in the season, when the canes are heavy and high winds prevail. One of the best tools is a weeder, run across the rows, thus filling in the seed furrow gradually. In the further cultivation of the crop, shallow running tools are necessary, because the roots feed quite close to the surface and a deep-running tool would injure them considerably. In the first stages the weeder is the best tool for the purpose, and if an adjustable one is used it can do the work successfully all the way through. If a weeder is not available, a sweep to run very shallow is the next best. After the crop is half-grown, a top-dressing of about two hundred pounds of Nitrate of Soda per acre is recommended. This should be mixed with the soil at the time of application, to get the best results.

STRIPPING.

Early in October, stripping should begin. All dead leaves should be removed, so as to admit sunlight to the stalks, which helps to sweeten the juice. This can be done at odd times, and so one will be so much work ahead when the rush of harvesting sets in. The crop should be allowed to stand as long as possible before cutting, because immature canes make inferior sirup.

CUTTING.

From the middle to the end of November is time enough to harvest the sugar cane anywhere in the State. In the preparation for harvesting the first consideration is the topping. The immature joints contain much glucose, and to prevent sugaring of the sirup we need to leave some green joints on the cut cane. About one immature joint to every eight matured ones is a good proportion to maintain in the topping process. After topping, the cane should be cut and windrowed as soon as possible, and in the event of a cold snap, the canes should be covered with leaves or trash of any kind to protect them from the frost.

GRINDING.

When preparing to grind a crop, a heavy mill should be used; because with a light mill the extraction will be low. The location of the mill should be where the juice can be run by gravity to the evaporator. If an inch pipe connects the juice tank with the evaporator, considerable time and trouble will be avoided when making sirup.

STRAINING.

The juice tank demands our close attention, and the straining of the juice as it runs from the mill must be done thoroughly. The best juice tank is made from the half of a barrel, set on the platform right below the mill spout. If black moss is available as a filter the tub should be filled with it. On the top of the juice tub a double layer of cheese cloth should be placed, held in position by a hoop so as to be easily removed for cleaning. Right under the mill spout a piece of common window wire screen should be placed. This will catch the rough trash that runs from the mill with the juice, it can readily be cleaned as often as desired. In fitting the tube to the bottom of the tub it should be inserted so as to be flush with the bottom, and a piece of wire gauze should be fitted on the mouth of the pipe to act as a strainer. These strainers and the moss filter will require cleaning several times a day when in full operation. It is best to have several tubfuls of moss, and when one tubful gets foul to remove, wash and dry it before using it again. This saves waiting for the moss to dry; for to clean it thoroughly, it must be first dried.

EVAPORATING.

The kind of evaporator to use is of importance, and our aim should be to have an evaporator with a large skimming surface. If one is going to use a furnace, the evaporator should be constructed so that it is easy of manipulation. A long box 18 feet by 30 inches, divided into three compartments, will be found satisfactory. It should be made of 2-inch poplar or cypress, about ten inches deep and fitted with a bottom of No. 20 galvanized sheet iron. This is divided into three compartments, the first one a foot or so longer than the others, so as to have plenty of skimming surface for the green sap when it goes in at first. The kind of skimmer is also of importance. The strainer skimmer generally used in sirup-making on the Florida farm, is not a perfect skimmer; for most of the material that it is supposed to remove escapes through the perforations in the bottom and mixes with the boiling juice, thus giving a dark cloudy product of inferior flavor. When the first compartment of the evaporator is filled with juice, the heat should be applied gradually, and it should never be allowed to come to the boiling point. The heavy green scum that rises at first should be removed by means of a board used like a scraper, and taken off into a gutter fitted for the purpose onto the end of the evaporator. When this heavy blanket is removed entirely, the juice should be transferred to the middle compartment through a gate for that purpose. Most of the evaporation should be done in the middle compartment, the sirup being only passed on to the next when it gets nearly ready to run off. The skimming of the boiling juice after the first blanket is removed should be done by a board with a handle to it like a mortarboard. This board should be of planed material, about 14 inches square. By laying it flat on the boiling juice all the scum on the surface adheres to it, and it can then be raised and the scum scraped off by means of a piece of lath into the skimming barrel. The impurities on the surface of the juice are thus entirely removed, and the product will be brighter and of a better flavor than that yielded by the old method of the strainer skimmer. To get a sirup uniform in density, a hydrometer must be used. This instrument costs less than a dollar, and no sirup-maker can afford to be without one. The point of thickness to which to boil is generally considered to be 34 degrees Baume; and if care is duly exercised, any number of gallons can be made to exactly the same density.

THE PACKAGE.

To get satisfactory prices and make the product more valuable, sirup must be put in glass packages, sealed while hot. If it is thus treated it will keep indefinitely. To put good sirup in barrels or even tin cans is not to be recommended. You cannot sterilize a barrel sufficiently to prevent fermentation when warm weather sets in; and after a time, if put in tin cans, the tin will impart its flavor to the sirup. But when put in glass bottles of a quart capacity, and nicely labeled, the price is always satisfactory. It should be the aim of every sirup-maker to make a good article, put up in air-tight glass packages, sealed while hot, with an attractive label giving the designation of the plantation or farm. When an article is made that can be guaranteed, there will be no trouble in marketing it. The supply of high-grade Florida sirup is never equal to the demand, and if our farmers will co-operate and build central evaporating plants, the industry could be extended until we would have Florida sirup in every market of the world, where the call for it is insistent.

SUGAR CANE.

SOILS ADAPTED TO ITS CULTURE—METHODS OF PLANTING AND CULTURE—FERTILIZING AND YIELD—PROFITS TO GROWER AND MANUFACTURER.

By R. E. ROSE, State Chemist.

Sugar Cane is successfully grown in all the Southern States bordering on the Gulf of Mexico—"the Sugar Belt"—extending approximately one hundred miles north of the Gulf coast in Louisiana, Alabama and Georgia, and is successfully cultivated in all parts of the State of Florida. At present, the largest acreages of Sugar Cane are found in the northern and western counties of the State.

The report of the Commissioner of Agriculture for 1910 shows that cane culture is well distributed over the State, with by far the largest acreage in the northern counties, in the following order.

Jackson	750	acres.	Wakulla	171	acres.
Leon	543	"	Sumter	167	"
Jefferson	406	"	Escambia	167	"
Hamilton	374	"	St. Johns	137	"
Bradford	334	"	Alachua	117	"
Suwannee	324	"	Baker	116	"
Columbia	323	"	Clay	93	"
Madison	322	"	Hernando	74	"
Washington	289	"	Taylor	69	"
Hillsborough	283	"	Franklin	67	"
Polk	274	"	Volusia	66	"
Duval	269	"	Marion	60	"
DeSoto	262	"	Lake	46	"
Liberty	259	"	Lafayette	46	"

Holmes	246	"	Orange	22	"
Santa Rosa	236	"	St. Lucie	17	"
Calhoun	209	"	Brevard	11	"
Levy	208	"	Palm Beach ...	3	"
Walton	187	"			

Gadsden County, though among the largest producers, with a number of steam factories, makes no report. No reports are made for Citrus, Dade, Gadsden, Lee, Monroe, Nassau, Osceola, Pasco and Putnam, in all of which there are considerable acreages planted in cane.

(Gadsden County reports for 1913, 1,515 acres; 13,367 barrels of syrup; value $133,670.00.)

A white frost does not injure Sugar Cane. On the contrary, it checks its growth and hastens maturity. A freeze kills the "buds," or eyes, and destroys the germinating quality, hence frozen cane is unfit for "seed" (cuttings). Frosted cane will make good syrup or sugar if it be "made up" before the cane ferments.

In the northern counties of Florida, seed cane is preserved by "bedding," "mat-laying," or "windrowing." When properly windrowed, cane is readily kept in good condition for planting, or the factory, for months. Thousands of acres are thus preserved in perfect condition for the factory in Louisiana, South Georgia and Alabama.

Southern counties have generally neglected to report their cane crops. The total acreage for the State reported in 1910 was 7,522 acres, valued at $794,172.00, or $105 per acre. It will be noted that more than half this acreage was produced in the northern tier of counties. It is safe to say that, using better machinery, mills and evaporators, this value could readily have been increased 50 per cent, or to $150.00 per acre.

With a modern central sugar, or syrup factory, similar to the beet factories of the West, the value of the product would have been at least double, or $200.00 per acre.

There is no agricultural product more staple than sugar—no crop more certain to produce a fair return. A total failure of a cane crop has never been recorded.

The price fluctuates less than that of any other staple. Sugar, formerly a luxury, is now recognized as a necessity.

SOILS ADAPTED TO SUGAR CANE.

Any soil in Florida that will produce a fair crop of corn will produce a corresponding crop of sugar cane. Any well drained sandy loam, particularly soils with a clay or marl sub-soil, such as are generally chosen for trucking or vegetable growing, soils with a large percentage of vegetable matter, well drained flat woods, low hammocks, and saw grass lands, largely composed of vegetable matter. The gently rolling lands of west and north Florida, with clay sub-soil, a warm sandy loam, well drained naturally, soils that produce fair crops of corn. The soils generally chosen for Irish potatoes—well drained flat woods, with clay bottoms, similar to the Hastings and Dupont, St. Johns County potato soils, and similar soils in Columbia, Suwannee, Baker, Duval, and other northern counties, with vast areas of similar soil in Orange, Osceola, Polk, Hillsborough, DeSoto and Lee.

In fact, as I have said in previous articles, I know of no township in Florida that could not furnish sufficient cane to supply a factory, with a capacity of 5,000 to 10,000 acres of cane per season, producing 15,000,000 to 30,000,000 pounds of pure granulated sugar per season.

VARIETIES OF CANE.

Varieties: The principal varieties are the Bourbon (Red or Purple); the Red and Yellow Ribbon; the Green, or Simpson, and the Crystalline, probably the parent of all the above except the Simpson. A number of new seedling varieties have been recently propagated by the Louisiana Experiment Station. Among them D-74 and D-95, are a vast improvement on the older kinds. Parties interested in the subject should write the Louisiana Sugar Experiment Station for bulletins and other information.

A distinct variety, the Japanese Cane, introduced from Louisiana by the U. S. Experiment Station in 1885-6, is a first class syrup cane and a wonderful forage plant. It is practically a perennial in Florida. Once established it will re-produce itself from the roots annually. It will withstand ten degrees more frost than ordinary cane, and reproduce itself the following season. Bulletin 105, of the Florida Agricultural Experiment Station, in Gainesville, Fla., on "Japanese Cane for Forage," by Prof. John W. Scott, gives much valuable information regarding this variety.

CLIMATE.

As to climate, Florida's climate is certainly superior to that of any other State for sugar growing. Our "rainy season" is during the growing months, when rain is required. A wet fall or winter is the exception. A dry fall and winter insures the ripeness of the cane and a quick harvest; a wet fall or winter (frequent in Louisiana) retards the ripening, and entails heavy expense for harvest. A "killing" frost seldom occurs in Florida before January. Grinding begins October 15, in Louisiana, and seldom before November 15, in North Florida, insuring thirty additional days for maturing the crop. In South Florida killing frosts are of rare occurrence, and grinding continues from December 1st to February. In tropical Florida, south of the 28th parallel, frost to kill oranges, lemons, limes or tropical cane, seldom occurs. The climate of West, Northern and Middle Florida has fully thirty days longer growing season than Louisiana, while South Florida has forty-five to sixty.

In tropical Florida the element of frost does not come into calculation. Grinding may begin when the crop is ready and extend into the next growing season. As to quality of cane, little has been done in Florida to select or improve the plant; in fact, the poorest, short-jointed, stunted stubble is generally used for "seed,' while the best and finest cane is worked up. The same varieties introduced by the Jesuits are still grown. This neglect of selecting seed cane, however, is not peculiar to Florida. The same careless methods prevail to a large extent in Louisiana and Cuba. Had the same care and scientific experimenting been practiced with cane as with beets during the last twenty years, the amount of sugar in the plant could have been largely increased, though average tropical cane now contains much more sugar and less impurities than the best varieties of beets.

CENTRAL MILLS.

Were it generally known that larger amounts of sugar can be made in Florida, at a much less cost per acre, with less labor, with but little skill required in growing, with far less capital required for machinery, and manufacturing, than in beet-sugar making, vast sums would be invested in the business. The location of central mills, at various parts of the State—near Pensacola, Mariana, Quincy, Tallahassee, Madison, Lake City, Gainesville, Ocála, Leesburg, Brooksville, Lakeland, Plant City, Bartow, Ft. Meade, Punta Gorda, and Bradentown, could each afford a supply of cane for mills making each 5,000,000 or more pounds per annum. On the St. Johns River and East Coast, St. Augustine, Hastings, DeLeon Springs, Tomoka, Daytona, Port Orange, New Smyrna and Titusville afford equally as fine opportunities for the establishment of central mills.

These mills or factories, purchasing their supplies from the farmer can afford to pay for the cane delivered, a price, equal to the sum now obtained for his crude syrup, now made in a crude and wasteful manner, saving the farmer the annoyance and cost of manufacture, and packages, and at the same time make large profits on the capital invested.

Further south in St. Lucie, Palm Beach, Dade and Lee Counties, below the twenty-eighth parallel, where vast areas of rich land in large bodies can be had, the plantation or "gang-system" will prove most satisfactory, where the planter owns the factory and cultivates the cane also. This system is applicable only where there is no probability of killing frost, where large fields can be safely allowed to stand till wanted by the mill. North of the twenty-eighth parallel the central-factory system, similar to the beet-factory system of Germany, Austria and the West, will be found most satisfactory. Where the acreage is made up of numerous small fields of ten to forty acres each, each farmer, in case of threatened freezing weather, can properly care for his crop by windrowing or mat-laying, as is now practiced in Georgia, Mississippi and frequently in Louisiana.

The crop can then be delivered as the factory requires it. This process of securing the crop adds but little to the cost and keeps the cane perfectly for months. No silos or bins are required for cane as with beets. The delay caused by a cold snap seldom retards the work of sugar making to exceed three days.

I advocate the central-mill plan, purchasing cane from the farmers, that the best results may be had both in the field and in the factory, the farmer devoting his time, skill and labor to producing the largest possible crop of high-grade cane, the miller to the most economical methods of making the best sugar, each receiving the greatest reward possible for his skill in his particular line.

CULTURE.

The culture of sugar cane is practically similar to that required for Indian corn. Fall planting—October 15th to December 1st—is preferable to spring planting.

For "seed" the mature canes are planted by laying them in a furrow on properly prepared land, in one continuous row or line, lapping each cane a foot or more to insure a perfect stand, cutting such cane as are crooked, in order to keep the row straight. The proper distance between rows is six feet.

FERTILIZING.

On naturally good, well drained, sandy loam, a formula containing 4% Ammonia, 6% Available Phosphoric Acid, 4% Potash, composed of organic ammoniate—cotton seed meal, tankage, or fish scrap—with Acid Phosphate and high grade Potash, either Sulphate or Muriate, applying from 500 to 1000 pounds per acre, depending largely on the natural productiveness of the soil, will supply the needs of the plant. On well drained low hammocks and rich muck lands, which are naturally rich in Nitrogen, the Ammoniates can be omitted.

YIELD.

While 65 tons per acre of cane have been grown on large areas of rich land, and 35 tons averaged on fields of more than 500 acres, it is safe to estimate carefully; while it is claimed that 30 tons is a fair average, my opinion is that the estimate should be an average of 20 tons per acre.

COST PER TON.

The most expensive item in establishing a sugar field is the seed cane. It requires four tons of cane to plant an acre, valued at $4.00 per ton. The general and proper method is to grow your own seed cane—one acre of good cane will plant five additional acres, which, with the original acre, will make the field six acres the second year. With seed cane costing four dollars per ton, the cost of the first year's crop, including fertilizing and harvest, will approximate $45.00, or $2.25 per ton, on the basis of twenty tons per acre.

If thirty tons are made, by no means an unusual yield, the cost per ton to grow and harvest, is proportionately reduced.

At five cents per pound for sugar, a price that can reasonably be expected for years to come, the value of this cane at a factory being one-half the value of the sugar in it, would be $4.00 per ton for cane averaging 160 pounds of pure sugar per ton of cane, or 8% of the weight of the cane in available, granulated or pure sugar, per ton of average Florida cane, or $80.00 gross, showing a net profit of $35.00 per acre, for the first season. The second season, the cost of seed being eliminated, the net profit should be not less than $50.00 per acre to the grower. Minimum yields of cane or sugar only, are used in this estimate. Much larger yields in tonnage and percentage of sugar are frequently made on well cultivated, properly fertilized and naturally productive soils.

RATTOON OR STUBBLE CROP.

In North and Middle Florida, properly cultivated and protected cane "stubble" or rattoons, will produce profitable crops, for two or more years—three crops from one planting.

In South Florida, between Gainesville and Tampa, cane can be rattooned for three years, with proper care and attention.

In semi-tropical Florida, below the 28th parallel and further south, rattoons, properly cared for, may be depended on for as many years as in Cuba.

MANUFACTURER'S PROFITS.

Basing the selling price of granulated sugar at 5 cents per pound, paying the grower one-half the value of the sugar in the cane, or four dollars per ton for cane, the gross profit of the factory should be three dollars per ton of cane, from which is to be deducted interest charges on investment, wear and tear of machinery, and general expenses not included in manufacturing costs. Hence a factory, handling 1,000 acres, or 200 tons of cane per day for 100 days (a very small factory—modern factories handle 1000 to 2000 tons of cane per day), would pay its owners $3.00 per ton of cane handled, or $60,000.00 gross per season, from which must be deducted all expenses but that of manufacturing ($1.00 per ton of cane or 62 cents per 100 pounds of sugar). Such a factory will cost approximately from $150,000 to $200,000, erected and ready for work, much depending on local conditions.

PRESENT CONDITIONS OF THE SUGAR SUPPLY.

Forty per cent of the world's supply of sugar, some 7,500,000 tons of 2000 pounds each, are grown in those countries now at war—Belgium, France, Germany, Austria, and Russia. This year's crop will not be harvested. Were the war to cease today, it would be years before these countries would again produce their average crops.

Sugar has become a staple food. It is no longer a luxury but a necessity. The production has barely kept pace with the demand or consumption. No surplus is carried over from year to year. That granulated sugar will sell wholesale for less than six cents per pound (retail for eight cents) for years to come; is not to be expected, hence the growing of cane and manufacture of sugar offers unusual inducements to Florida farmers, merchants and capital.

REFERENCES.

Persons desiring more detailed information as to sugar machinery manucacturers are referred to the advertising pages of the Florida daily and Agricultural press and to the "Louisiana Planter and Sugar Manufacturer," New Orleans, Louisiana.

For the culture of sugar cane and the manufacture of sugar and syrup, to the bulletins of the Florida Agricultural Experiment Station, at Gainesville, Fla., and the Louisiana Sugar Experiment Station, Audubon Park, La.

Also to write the U. S. Department of Agriculture, Washington, D. C., for Bulltins No. 70 and 75 of the Chemical Division, "Experiments in Cane Culture and Syrup Making in South Georgia," and Farmers' Bulletin No. 477, "Sorghum Syrup Manufacture." The methods applicable for sorghum syrup are practically the same as for sugar cane syrup.

PIG FEEDING.

By JOHN M. SCOTT.

Animal Industrialist and Assistant Director Agricultural Experiment Station.

SUMMARY.

This bulletin gives the results of experiments with eighty-seven pigs. All of these pigs were pure-bred Berkshires. The experiments were conducted at different seasons of the year. The length of the feeding periods varied from 30 to 114 days.

The cost of producing a pound of pork was different with the different rations. The cheapest pork was produced at a cost of six and eight-tenths cents per pound. The feeds used in producing this cheap pork were shelled corn and sweet potatoes in equal parts by weight. This experiment was conducted during January and February. During the thirty days the pigs were fed they made a daily average gain of 0.65 of a pound, or an average daily gain per 1000 pounds live weight of 6.43 pounds. It required 512.7 pounds of feed to make 100 pounds of gain. (See Tables XIII and XIV.)

The most unsatisfactory financial returns were in Experiment II. In this test velvet beans in the pod, Japanese cane and sweet potatoes were used. Lot I, consisting of five pigs fed velvet beans in the pod, made a gain of only 25 pounds in sixty days. Lot II, consisting of five pigs fed equal parts by weight of velvet beans in the pod and Japanese cane, gained only 4.3 pounds in sixty days. Lot III, consisting of five pigs fed velvet beans one part and Japanese cane two parts by weight, lost 7.7 pounds in weight in sixty days. Lot IV, consisting of

five pigs fed Japanese cane, lost 61 pounds in weight in sixty days. Lot V, consisting of five pigs fed velvet beans in the pod and sweet potatoes, equal parts by weight, gained only 12.3 pounds in sixty days. (See Tables III and IV.)

This shows clearly that none of these rations were satisfactory. Velvet beans in the pod, when fed alone, gave better results than any of the other combinations. It is evident from these results that Japanese cane is not a good feed for pork production when fed alone. Neither was it satisfactory when it made up as much as one-half of the ration.

In Experiment I, when shelled corn, velvet beans in the pod, and Japanese cane were fed, satisfactory gains were obtained. The cost per pound of gain was eight and six-tenths cents. In this test it required 1400 pounds of feed to make 100 pounds of gain. This large weight of feed was due to the Japanese cane. (See Tables I and II.)

In Experiment III, Lot I, fed shelled corn only, made a daily gain per 100 pounds live weight of 4.4 pounds. The cost per pound of gain was eight cents. For every 100 pounds of gain produced it required 546 pounds of feed. Lot II, fed shelled corn and cull velvet beans, equal parts by weight, made an average daily gain per 1000 pounds live weight of only 3.3 pounds. With this combination of feeds it cost ten cents to make a pound of gain, and it required 797 pounds of feed to make 100 pounds of gain. Lot III, fed equal parts by weight of shelled corn, cull velvet beans and shorts, made an average daily gain per 1000 pounds live weight of 4.7 pounds. The cost per pound of gain with these feeds was nine cents. With this combination it required 641 pounds of feed to make 100 pounds of gain. Lot IV was fed the same as Lot II, with the addition of green sorghum. This ration produced a daily gain of 4.5 pounds per thousand pounds live weight. The cost per pound of gain was eight cents. It required 1118 pounds of feed to make 100 pounds of gain. When we remember that 520 pounds of this is green sorghum, the total amount will not seem so excessive.

COMPOSITION OF THE ANIMAL BODY AND ANIMAL PRODUCTS.

Investigators have found that the bodies of animals, as well as animal products, are mainly made up of the following group of substances: Water, ash, protein, and fat. These substances occur in the animal body in somewhat varying proportions, depending upon the age, condition, treatment and other factors. Water is an essential constituent of the animal body, and composes from 40 to 60 per cent of the live weight. Ash occurs mostly in the bones, and forms from 2 to 5 per cent of the live weight. The fat occurs in greatly varying proportions, but rarely constitutes less than 6 per cent or more than 30 per cent. Protein includes most of those substances which contain nitrogen in their composition. It is an important group, and is largely present in lean meat. The white of eggs also consist mainly of protein and water. In its pure state protein contains about 16 per cent of nitrogen. The flesh, internal organs, brains and nerves, contain a large proportion of it.

COMPOSITION OF FEEDS.

Plants also contain water, ash, fat and protein. In addition to these the plants which compose the food of herbivorous animals contain a group of substances called carbohydrates (starches, sugars, etc.) which may be converted into fat or energy.

WATER.—All food-stuffs, no matter how dry they may seem, contain a considerable amount of water. In grains and dry feeds the water ranges from 3 to 15 per cent. of the material; in green forage and silage it is about 80 per cent.; while in some tubers and fleshly roots the water reaches as high as 90 per cent. Water is essential to animal life, and in food it fulfills the same function as that drunk by the animal. In calculating the food value of any feeding material, the water contained is, of course, not taken into consideration.

ASH.—When a food stuff is burned until the organic matter is all driven off, the residue is the ash. It is composed largely of lime, magnesia, potash, sulphuric and phosphoric acids, and a few other oxides. The ash of the food is the source of the mineral matter found in the animal body, and as such is of importance. Ordinary combinations of feeding stuffs, however, usually contain an abundant supply of mineral matter for the use of the animal; so this is not often a matter of practical concern, except as it has a bearing on the mineral elements of fertility in the manure.

FATS.—This class of substances includes the fat in the meat or butter which we eat. The proportions of fat in feeding stuffs vary within wide limits. In general, seeds and their by-products contain more fat than coarse fodder. Straws contain less fat than hays, the amount varying from one-half to one and a half per cent. But little fat is found in the dry matter of roots or tubers. Corn and oats contain from four to five, while cottonseed meal contains from eight to twelve per cent. of fat.

CARBOHYDRATES.—This class includes starch, sugar, gum and other minor substances, and also the fiber or woody parts of plants. The first are quite freely digested; the last is much less so, though fulfiling the same function as far as it is digested. The carbohydrates constitute the largest part of most vegetable foods. They are not stored in the body as such, but are converted into fat, or used to produce heat and energy. Since the carbohydrates and fats serve nearly the same purpose in the animal body, they may, for convenience, be grouped together. Experiments, however, have shown that fat, as a food, is about two and one-fourth times as effective, weight for weight, as are the carbohydrates. That is, one pound of fat will produce about as much heat or energy as two and one-quarter pounds of carbohydrates.

PROTEIN.—The protein of foods, like that of the animal body, is characterized by containing nitrogen. It is, therefore, included in what is termed "nitrogenous matter." The function of protein in the food is first of all to build up new tissue and repair the working machinery of the body, and to supply material for the production of milk, wool, muscle, and repair of organs. No other food constituent can fulfill this function.

Since the animal body and all animal products are composed of the same group of substances as food stuffs contain, we have a basis on which to begin the feeding of animals. Rational feeding of animals is to supply these different elements in sufficient quantity and in the proper proportions for the needs of the animal's body. This is what is known as a balanced ration. We should not, or cannot, expect an animal to grow and develop as it ought unless we supply it with the proper amounts of the different substances its body needs. There is no one hog feed, excepting milk, that supplies all of the necessary nutrients in the correct ratio. It is necessary, therefore, to use a mixture of two or more feeds to get the best results.

In selecting and combining feeds it is not only necessary to take into consideration their composition, but also their digestibility and palatability. It is worse than useless to give an animal food that cannot be digested, and one that is not palatable will not be eaten in sufficient quantity.

HOW TO CALCULATE RATIONS.

From the table which gives the percentage of digestible nutrients in the various feeds we can easily work out a balanced ration. For example, suppose we are feeding flint corn 12, sweet potatoes 12, cottonseed meal 1.75, and cowpeas 5 pounds per day, to find the amount of protein in 12 pounds of corn, we divide the amount in 100 pounds (the percentage) by 100, and multiply by 12, and so on. We will thus get the following results:

CORN.

	In 100 pounds.	In 12 pounds.
Crude Protein	8.0	0.96
Carbohydrates	66.2	7.94
Fat	4.3	0.51

SWEET POTATOES.

	In 100 pounds.	In 12 pounds.
Crude Protein	0.8	0.09
Carbohydrates	22.9	2.75
Fat	0.2	0.03

COTTONSEED MEAL.

	In 100 pounds.	In 1.75 pounds.
Crude Protein	37.6	0.66
Carbohydrates	21.4	0.37
Fat	9.6	0.17

COWPEAS.

	In 100 pounds.	In 5 pounds.
Crude Protein	16.8	0.84
Carbohydrates	54.9	2.74
Fat	1.1	0.06

If we then arrange these results in another table we have:

	Pounds.	Protein Pounds.	Carbohydrates Pounds.	Fat Pounds.
Corn	12	0.96	7.94	0.51
Sweet Potatoes	12	0.09	2.75	0.03
Cottonseed Meal	1.75	0.66	0.37	0.17
Cowpeas	5	0.84	2.74	0.06
Total	30.75	2.55	13.80	0.77

One pound of fat is equal to 2.25 pounds of carbohydrates; therefore, we can reduce the fat to carbohydates by multiplying 0.77 pounds of fats by 2.25 and the result is 1.73. Adding this to the carbohydrates, we get 15.53 pounds total carbohydates. Dividing the total carbohydrates, 15.53, by the total protein, 2.55, gives 6.09. The nutritive ratio then is one part protein to 6.09 parts carbohydrates, and is written 1:6.09.

SOME GOOD RATIONS.

Any one of the following rations should be found satisfactory for fattening hogs. The question of cost will, of course, enter into the selection of a ration. It will be found necessary, perhaps, to estimate the cost of the different feeds and see which will be the most economical to use.

RATION I.

	Pounds	Protein Pounds	Carbohyd. Pounds	Fat Pounds
Corn	12	0.96	7.94	0.51
Sweet Potatoes	10	0.09	2.75	0.03
Cottonseed Meal....	1.75	0.66	0.37	0.17
Cowpeas	5	0.84	2.74	0.06
Total..........	30.75	2.55	13.80	0.77

Nutritive ratio, 1:6.

RATION II.

	Pounds	Protein Pounds	Carbohyd. Pounds	Fat Pounds
Corn	15	1.20	9.93	0.64
Soy Beans..........	3	0.87	0.70	0.44
Dwarf Essex Rape..	25	0.50	2.02	0.05
Total..........	43	2.57	12.65	1.13

Nutritive ratio, 1:5.9.

RATION III.

	Pounds	Protein Pounds	Carbohyd. Pounds	Fat Pounds
Sorghum Seed......	10	0.45	6.11	0.28
Corn	10	0.80	3.31	0.43
Cowpeas	7.75	1.26	4.11	0.08
Total..........	27.5	2.51	13.53	0.79

Nutritive ratio, 1:6.

FEEDS.

Average Percentage Composition and Digestible Matter.

Feeding Stuffs.	Percentage Composition.					Percentage Digestible		
			Carbohydrates.					
	Water.	Protein.	Fiber.	Nitrogen—Free Extract	Fats.	Protein.	Carbohydrates.	Fats.
Flint Corn	11.3	10.5	1.7	70.1	5.0	8.00	66.2	4.3
Corn Meal	15.0	9.2	1.9	68.7	3.8	6.70	64.3	3.5
Corn and Cob Meal	15.1	8.5	6.6	64.8	3.5	4.40	60.0	2.9
Wheat Bran.....	11.9	15.4	9.0	53.9	4.0	11.9	42.0	2.5
Shorts	11.2	16.9	6.2	56.2	5.1	13.0	45.7	4.5
Cowpea	14.6	26.5	3.9	56.3	1.5	16.8	54.9	1.1
Soy Bean	11.7	33.5	4.5	28.3	17.2	29.1	23.3	14.6
Kaffir Corn......	9.9	11.2	2.7	71.5	3.1	5.2	44.3	1.4
Sorghum Seed...	12.8	9.1	2.6	69.8	3.6	4.5	61.1	2.8
Milo Maize Seed.	9.0	10.7	3.0	72.2	2.8	4.9	44.8	1.3
Cottonseed	10.3	18.4	23.2	24.7	19.9	12.5	30.0	17.3
Cottonseed Meal.	7.0	45.3	6.3	24.6	10.2	37.6	21.4	9.6
Sunflower Seed..	8.6	16.3	29.9	21.4	21.2	14.8	29.7	18.2
Chufa	79.5	0.7	2.2	10.5	6.6	0.6	9.1	5.6
Sorghum, green..	.....	.....	.....	.....	.....	0.6	11.6	0.3
Cowpeas, green..	.....	.....	.....	.....	.....	1.8	8.7	0.2
Skim Milk.......	90.4	3.3	.....	4.7	0.9	2.9	5.3	0.3
Buttermilk	90.1	4.0	.....	4.0	1.1	3.8	3.9	1.0
Dwarf Essex Rape	.....	.....	.....	.....	.....	2.0	8.1	0.2
Sweet Potatoes..	.....	.....	.....	.....	.....	0.8	22.9	0.3
Bermuda Grass..	.....	.....	.....	.....	.....	1.3	13.4	0.4

PORK PRODUCTION.

Pork production in Florida is not receiving the attention it deserves. At the present time there are perhaps a half million head of hogs in the State. This number, however, does not supply the demand for pork. Fifty per cent, or more, of the pork consumed in Florida is produced in States farther north. Florida farmers can certaily produce pork more cheaply than the cost of production elsewhere plus the freight.

To make the largest profit from hogs they should be put on the market at the youngest possible age. Many of the Florida hogs are from one year to a year and a half old before they are ready for market. The Florida market demands a hog that will weigh 125 to 160 pounds. Animals of such weight can be produced in five to seven months. When they have to be kept and fed for a year to a year and a half, the risk of loss and the cost of feed become too great to yield any assured profit. Farmers in the corn belt, where the demand is for hogs weighing from 200 to 250 pounds, have their hogs ready for market at nine months to one year of age.

There is a too common impression among many farmers that the hog is a sort of scavenger, that any refuse will do for it to eat, and any filthy pen will do for it to live in. It is true that hogs do often act as scavengers, and also that they can live in filthy places, but these conditions are generally brought about when the animals have no choice in the matter. Hogs are not naturally filthy animals, but they are capable of existing under unsanitary conditions.

PEN-FEEDING UNPROFITABLE.

If we are to get the largest possible returns from raising hogs it will be found necessary to make the hogs pay for their keep. How can this be done- One of the best ways will be to insist upon them harvesting the crops grown for feed. The cost of harvesting the various crops adds considerably to the cost of production. This, in a measure, explains the high cost of production when we try to raise hogs by keeping them in small pens. When they are kept in small pens we do not only have to harvest and carry the feed to them, but in many cases we are obliged to carry all the water which they drink. Therefore we should make the hogs harvest as many of the crops as is practicable.

In the small pen it is impossible to keep the animals under sanitary conditions. If they are not kept under healthy conditions we are inviting disease to visit the herd, which means a big loss instead of a profit. It will also be found that hogs will not make as rapid growth while kept shut up in small pens as when given the run of a small field.

CHOOSING A BREED.

There are many breeds of hogs. Some breeds are better adapted to certain climatic conditions than others. For Florida there are several breeds that will be found well adapted to our needs.

Farmers wishing to produce pork should raise Berkshires, Poland Chinas, Duroc Jerseys, and Essex. Those wishing to produce bacon should raise Hampshires and Tamworths. A hog that is raised for pork alone or for bacon alone is more profitable to us than one that is raised for both pork and bacon. In general, Florida conditions are more favorable for pork production than for bacon.

In selecting a breed for Florida conditions it will be found advisable not to select a white one, as these do not do as well in our climate as the black or red breeds. White hogs sun-scald easily and become scurfy and mangy. When in such a condition they cannot be expected to grow and develop as they would if healthy. If given an abundance of shade and water at all times there is less trouble from this source.

However, the selection of the breed is a personal matter. A person should choose the one he fancies most and which will produce the results he desires. It may be that the Duroc Jersey will meet with your approval, while your neighbor across the road will say that the Berkshire is the only breed for him. This is because he has had better success with the Berkshire, and is probably better temperamentally adapted to that breed. Therefore, select the breed you like best, barring the white ones.

GRADING-UP.

The disappearance of unimproved blood by the continuous use of pure-bred sires is shown in the customary way in the following table:

Generations.	Sires. Pct. of Pure breed.	Dams. Pct. of Pure breed.	Offspring. Pct. of Pure breed.
1	100	0	50
2	100	50	75
3	100	75	87.5
4	100	87.5	93.75
5	100	93.75	96.87
6	100	96.87	98.44

Hypothetically, the offspring from the sixth generation will have retained on the average 1.55 per cent of the unimproved blood from the original dam or the dam of no breeding. (This applies only to the average of large numbers and does not apply to individuals.)

The breeder must be reminded that to produce the high grade no other sire than a pure-bred one of the breed selected can be used. No progress will be accomplished by using a grade, scrub, or crossbred sire. Nor can progress toward eventual purity of blood be made by using pure-bred sires of different breeds for each cross or occasional cross. Grading-up means using a pure-bred sire for the first cross and continually crossing the female offspring with pure-bred sires of the breed first selected, until all impure blood has been practically bred out.

It is not necessary for the farmer who is producing pork for the market to keep a breeding herd of registered sows. A herd of high grades will answer the purpose nearly as well and they can be purchased at a much cheaper rate. The one important thing is that the breeder use a pure-bred sire. If he must start with a herd of inferior sows, by using a pure-bred sire it will only be a question of two or three years until he will have a herd of good grades.

LOCATION AND GREEN CROPS.

The ideal farm for raising hogs is one that will afford an abundance of shade, with enough fresh running water, and in addition a liberal amount of grazing. It may not be possible to find all of these conditions naturally in one field, but they can be supplied at a comparatively small outlay. Shade can be furnished in a short time by planting some quickly-growing trees or shrubbery. If necessary, some annuals may be grown for the first year until the permanent plantings become large enough to supply the shade. If there is not already a sufficient amount of water at hand, it can be supplied by putting down a well and erecting a windmill or installing a gasoline engine. The supply of fresh water is as important to the welfare of the hog as is the grain given. It is well known that if pigs are not given an abundance of water they will not fatten as rapidly as they should.

Some kind of green feed for the hogs to graze on, or as soiling, will go a long way toward reducing the cost of production. The green feed supplied will not entirely replace the grain; but it will replace a part of it, and at the same time increase the gain that it is possible to get from a given amount of grain. For instance, if one hundred pounds of corn fed alone will produce eight or ten pounds of pork, this same amount of corn when fed with some green feed will produce from 12 to 15 pounds of pork. This is not entirely due to the food value of the green feed, but partly to the fact that the green feed regulates and tones up the digestive and circulatory system and keeps the animals in healthy condition.

There is hardly any grass or grain that hogs will not eat when green, and there are many weeds on which they will feed. The following is a list of useful forage crops for hogs in Florida. The crops in this list will give pasture through the entire year.

	Can be pastured from
Dwarf Essex Rape	December to March.
Japanese Cane	November to March.
Rye, Oats, Barley	November to April.
Sorghum	May to November.
Chufas	August to December.
Sweet Potatoes	October to December.
Cowpeas and Soy Beans	July to November.
Peanuts	September to December.

For a permanent pasture it is doubtful if we can get anything better than Bermuda and Johnson grass. These do not furnish pasturage for the entire year, but can be depended upon from early spring until late fall.

CARE OF THE HERD.

The brood sow and boar are the foundation of the hog industry. It is important, therefore, that the most careful attention be given to these. They must receive such food and care as will insure good, healthy brood sows and strong, healthy litters of pigs.

Prolificacy, though more or less an inherited characteristic, is, to a large extent, controlled by the feed and care of the sow. Good breeding sows are often reduced in value as breeders by improper feeding. If the sows are fed largely on a carbonaceous ration they are likely to become too fat. When the sows are kept too fat they are not regular breeders. When they do farrow, the result is a small litter of weak pigs.

The sows should not be starved at any time. They should be fed on a well-balanced ration with plenty of protein to produce an abundant flow of milk. After the pigs are weaned the sow requires nearly the same ration. It is a common practice with many farmers to put the brood sow on a starvation ration as soon as the pigs are weaned. It is as bad to feed them on corn only. Corn alone may do for fattening an animal, but when fed alone to pregnant sows it does not supply enough protein to properly develop the growing foetus. The result is the sows will farrow small litters of weak pigs. If we wish to maintain a prolific strain of brood sows we must give attention to how they are fed.

EXPERIMENT I.

All of the pigs used in the following experiments were Berkshires. These pigs were not all registered, but they were all eligible to registration.

In calculating the cost of producing a pound of pork in the experiments that follow, the feeds were valued at the prices here given: Corn, $1.75; shorts, $1.70; velvet beans in the pod, $0.30; sweet potatoes, $1.00; Japanese cane, $0.20, and sorghum, $0.20 per hundred.

The first test was conducted with five Berkshire pigs. The test was begun January 29, 1910, and continued for 51 days, closing March 20, 1910. The object of this experiment was to test the value of corn (one part), velvet beans in the pod (one part), and Japanese cane (two parts by weight), for pork production. During the time the pigs were under observation, they were fed shelled corn and velvet beans in the pod, equal parts by weight. In addition, they were given two pounds of Japanese cane for each pound of corn fed. At the beginning of the test the five pigs averaged 118.6 pounds per head, and weighed altogether 593 pounds. At the end of the feeding test they weighed 775 pounds, making a gain of 182 pounds, with an average daily gain per head of 0.71 pounds.

The cost per pound of gain in this test was 8.6 cents. The records show that after feeding the pigs for thirty days they weighed 704 pounds, and the cost per pound of gain was 6.5 cents. From a practical standpoint they should have been sold at that time. When sold at the close of the test the buyer objected that the pigs were too fat to furnish the best quality of pork.

TABLE I.

Weights and Gains.

	Pounds.
Weight at beginning of test, January 29, 1910 (5 pigs)	593
Weight at end of test, March 20, 1910 (51 days, 5 pigs)	775
Total gain in 51 days	182
Average daily gain	0.71
Average daily gain per 1000 pounds live weight	6.02
Pounds of feed to make 100 pounds of gain	1406

TABLE II.

Cost of Feeds.

642 pounds of Corn at $1.75 a hundred	$ 11.23
642 pounds of Velvet Beans in pod at 30 cts. a hundred	1.93
1,275 pounds of Japanese Cane at 20 cts a hundred	2.55
Total	$ 15.71

EXPERIMENT II.

The second test was conducted with twenty-five pigs. This test began December 13, 1910, and lasted sixty days, closing February 11, 1911. The twenty-five pigs in this test were divided into five equal lots, of five pigs each, size and quality being considered. The feeds used were velvet beans in the pod, Japanese cane, and sweet potatoes. These were fed just as they came from the field, except the Japanese cane, which was cut into short pieces with a hatchet.

Lot I was fed velvet beans in the pod only. Lot II was fed equal parts by weight of velvet beans in the pod and Japanese cane. Lot III was fed velvet beans in the pod, one part, and Japanese cane, two parts, by weight. Lot IV was fed Japanese cane only. Lot V was fed velvet beans in the pod and sweet potatoes, equal parts by weight.

The three crops used in this feeding experiment are grown, or can be grown, in all parts of Florida. It is evident from the results of this feeding test that, in the proportions in which the feeds were fed, they were not all satisfactory in financial returns. However, it is the information that comes from such work that is of value to the live-stock interests of the State.

TABLE III.

Weights and Gains, Pounds.

	Lot I	Lot II	Lot III	Lot IV	Lot V
Weight at beginning, Dec. 13, 1910	230	230	235.0	215	215.0
Weight at end, Feb. 11, 1911 (60 days)........	255	234.3	227.3	154	227.3
Total gain or loss in 60 days..................	25	4.3	-7.7	-61	12.3
Average daily gain or loss	0.08	0.01	-0.03	-0.20	0.04
Average daily gain or loss per 1000 lbs. live wt...	1.8	0.30	-0.53	-4.84	0.95

TABLE IV.

Pounds of Feed Consumed.

Feeds.	Lot I	Lot II	Lot III	Lot IV	Lot V
Velvet Beans in pod.....	673	450	405.5	....	474
Japansese Cane	....	450	804.5	3046.5	....
Sweet Potatoes..........	....	....	....	....	489

If we should judge the results of this feeding test by the gain in pounds produced by the different feeds, we would be likely to condemn the whole test, and say it was a failure, and that the feeds were no good for pork production. But the information obtained from this work is of considerable value to the farmers of the State who are feeding hogs. To know that Japanese cane when fed alone to small pigs is not a maintenance ration, is worth more to the farmers of the State than the cost of the whole experiment.

A glance at Table III will show the weights at the beginning of the test, the weights at the close, and the gain or loss in pounds during the sixty days the pigs were in the test. By examining Table III it will be seen that all lots of pigs were of nearly equal weight. They were also of nearly equal age, being about three months old when the experiment began. At the end of the experiment, sixty days later, Lot IV has lost 61 pounds in weight. This fact was quite evident, and it could easily be seen that the pigs were daily growing smaller and weaker.

It is not necessary to make much comment on this table. It is evident when the ration is composed entirely of Japanese cane, or when as much as two-thirds of the ration is Japanese cane, especially when feeding young pigs, that it will not maintain the original body weight. The reason for this is evident. Although hogs eat a considerable amount of grass and green feeds of various kinds, yet the arrangement and size of their digestive organs is not such that they can handle and digest large quantities of forage, such as Japanese cane. In fact they ate but little of the cane, other than the juice. They would chew a mouthful of cane until nearly all of the juice had been extracted. They would then spit out the refuse, and take a fresh mouthful, and so on. The trouble with the Japanese cane is that it requires too much work from the hogs for what they get out of it. That is, they must work overtime to get enough food to supply their appetites. In feeding velvet beans in the pod, the pigs did not eat any of the pods. They became, in a short time, quite expert in shelling out the beans. The only advantage in feeding the beans in the pod is saving the cost of shelling, which may amount to anywhere from 10 cents to 25 cents per hundred pounds.

EXPERIMENT III.

In this test, twenty pigs were used. The pigs were separated into four lots of five pigs each. Lot I was fed shelled corn only. Lot II was fed shelled corn and cull velvet beans, equal parts by weight. Lot III was fed shelled corn, cull velvet beans, and shorts, equal parts by weight. Lot IV was fed equal parts of shelled corn and cull velvet beans, and all of the green sorghum the pigs would eat. The cull velvet beans were the refuse taken from the seed velvet beans. They were composed of broken beans and small, immature shriveled seed. The beans as they came from the field were put through the huller, and were afterwards screened through a screen of three-eighths inch mesh. All that went through the screen were considered as culls. The corn, cull velvet beans, and shorts, were soaked before feeding. The evening feed was weighed out in the morning and soaked until evening, and so on.

The experiment began March 21, 1911, and closed June 16, 1911, lasting 90 days. Feeding green sorghum was begun on May 9, 1911.

TABLE V.

Weights and Gains, Pounds.

	Lot I	Lot II	Lot III	Lot IV
Weight of pigs at beginning, Mar. 21, 1911	291.0	266.6	274.6	265.6
Weight at end June 16, 1911	406.6	345.0	390.0	373.3
Gain per lot (90 days)	115.6	78.4	116.0	108.0
Daily gain per head	0.26	0.17	0.26	0.24
Daily gain per 1000 pounds live weight	4.4	3.3	4.7	4.5
Cost per pound of gain	$0.08	$0.10	$0.09	$0.08
Cost per 100 pounds of gain	$8.19	$9.96	$8.98	$7.96
Pounds of feed to make 100 lbs. of gain	546.2	797.2	641.7	1118.1*

*522 pounds of this was green Sorghum.

TABLE VI.

Pounds of Feed Consumed.

	Lot I	Lot II	Lot III	Lot IV
Corn	631.4	312.5	248.1	327.8
Velvet Beans, culls	....	312.5	248.1	327.8
Shorts	....	....	248.1	....
Green Sorghum	....	....	....	552.0

The weights of the different lots of pigs were nearly the same at the beginning. The average daily gain per head was about the same for all the lots of pigs, except for the pigs in Lot II, which were fed corn and cull velvet beans, equal parts by weight. The cheapest pork was produced, however, with Lot IV, fed equal parts of corn and cull velvet beans, and all the green sorghum they would eat.

EXPERIMENT IV.

Experiment IV was conducted with quite young pigs. The pigs were weaned and then placed in the experimental feed lot. In this test were seventeen head of pigs. Their total weight was 590 pounds, or 34.7 pounds per head.

The pigs in this test was taken from four litters. The age of the pigs varied from two to three months. The feeds given were shelled corn, and shorts (equal parts by weight). In addition, the pigs were given about forty pounds of milk per day, and all the green sorghum they would eat (14 to 16 pounds per day). The pigs made satisfactory gains. The daily gain per head was nearly one pound. During the first thirty days the seventeen pigs almost doubled their weight.

The object of the experiment was to get the cost of producing a pound of pork with young pigs. Additional information was also wanted in regard to the length of time from weaning until the pigs are ready for market.

The experiment began June 1, 1911, at which time the seventeen pigs weighed 590 pounds. On July 1, 1911, thirty days after the experiment started, the seventeen pigs weighed 1081 pounds. The seventeen pigs made a gain in weight of 491 pounds during the thirty days. The amount of feed required to make 100 pounds of gain during the thirty days was: corn, 148.5; shorts, 153.4; milk, 239.3; and green sorghum, 83.9, or a total of 625 pounds.

TABLE VII.

Weights and Gains of Pigs.

	Pounds.
Weight at beginning of experiment, June 1, 1911	590
Weight at end of thirty days	1,081
Total gain in thirty days	491
Average daily gain per head	0.96
Average daily gain per 1000 pounds live weight	27.40

TABLE VIII.

Feed Consumed During Thirty Days.

	Pounds.
Corn	729
Shorts	753
Milk	1,175
Green Sorghum	412

TABLE IX.

Weights and Gains.

	Pounds.
Weight at beginning of test, June 1, 1911 (17 head)	590.0
Weight at close of feeding test, September 22, 1911	2,461.6
Total gain in 114 days	1,871.6
Average gain per head in 114 days	110.09
Average daily gain per head	0.97
Average daily gain per 1000 pounds live weight	27.95
Feed to make 100 pounds of gain	716.00

Cost per pound of gain, $0.114.
Cost per hundred pounds of gain, $11.40.

TABLE X.

Feeds Consumed.

	Pounds.
Corn	3,585
Shorts	3,105
Sorghum, green	3,268
Milk	3,443

EXPERIMENT V.

Experiment V was conducted with ten head of Berkshire pigs. These pigs were considerably older than were those used in the preceding test. The average weight at the beginning of the test was 99 pounds. The feeding test began on July 18, 1911, and closed August 29, 1911, covering a period of 43 days. During the test the ten pigs gained 339.3 pounds in weight. They made an average daily gain per head of 0.79 pound. The average daily gain in this test was not so good as in the preceding test, but it is quite satisfactory. The cost per pound of gain, however, was about the same as in the preceding experiment.

TABLE XI.

Weights and Gains.

	Pounds.
Weight at beginning of test, July 18, 1911 (10 head)	990.0
Weight at closing of feeding test, August 29, 1911	1,329.23
Total gain in 43 days	339.23
Average gain per head	33.9
Average gain per head	0.79
Average daily gain per 1000 pounds, live weight	7.97
Feed to make 100 pounds of gain	1,413.75

Cost per pound of gain, $0.11.
Cost per hundred pounds of gain, $11.20.

TABLE XII.

Feeds Consumed.

	Pounds.
Corn	2,216
Green Sorghum	2,580

EXPERIMENT VI.

Experiment VI was conducted during the winter season. The test began January 16, 1912, and continued thirty days, closing February 15, 1912. Ten Berkshire pigs were used in this test. The average weight of the pigs in this test was nearly the same as in the preceding one, 101 pounds. The feeds used were corn and sweet potatoes, fed in equal parts by weight.

The results of this test were satisfactory, when the cost per pound of gain is considered. However, the daily average gain was not as much as in some of the other feeding tests. But the low cost per pound of gain makes the result quite satisfactory.

TABLE XIII.

Weights and Gains.

	Pounds.
Weight at beginning of test, January 16, 1912	1,010
Weight at close of test, February 15, 1912	1,207
Total gain in thirty days	197
Average gain per head	19.7
Average daily gain per head	0.65
Average daily gain per 1000 pounds, live weight	6.43
Feed to make 100 pounds of gain	512.68

Cost per pound of gain, $0.068.
Cost per 100 pounds of gain, $6.85.

TABLE XIV.

Feeds Consumed.

	Pounds.
Corn	505
Sweet Potatoes	505

KUDZU.

The following articles on the Kudzu vine and its value as a forage plant for Florida, by Hon. E. B. Eppes, of Tallahassee, and Mr. C. E. Pleas, of Chipley, Florida, are the first authentic publications of special value or merit concerning this plant.

The fact that both Mr. Eppes and Mr. Pleas are scientific Agriculturists, who are successful farmers in the highest degree, adds much weight to their statements concerning this plant. Their experience with it continuing through ten years or more of unfailing success, is convincing testimony of its great value to the farmers of Florida. Its adaptability to so many farm purposes undoubtedly places it among the foremost of both forage and leguminous plants.

KUDZU, THE MISSING LINK IN OUR CHAIN OF LEGUMINOUS FORAGE PLANTS.

By HON. E. B. EPPES, Tallahassee, Florida.

This remarkable vine gives promise of being one of the leading sources of wealth in the Southern States in future. It is really a pea vine that springs up from the roots when the first warm days come in the spring of the year and grows vigorously until a killing freeze comes in the fall. This gives a growing season of at least eight months in the year during which several cuttings of hay can be made (some instances are known where four cuttings of hay, averaging two and one-half tons per cutting and making a total yield of ten tons per acre in a single season, have been made). This hay is of the highest quality, being equal to cowpea or alfalfa, and much richer than timothy.

The analysis made by the State Chemist of Florida shows protein 17.43 and starch and sugar 30.20, being a somewhat richer food than wheat bran. Another remarkable feature is that although the hay is as rich a food as alfalfa, yet it is entirely free from the tendency to cause loose bowels and bloat in horses and other live stock that interferes so seriously with the use of alfalfa. When moistened, Kudzu hay becomes almost like fresh foliage again and makes an excellent green ration for poultry in winter. It is well adapted for use in making mixed feed stuffs and for all other purposes that alfalfa can be used for.

The hay cures very quickly, retaining its leaves and bright green color instead of shedding as cowpeas and velvet beans do; in fair weather it requires only one day before it is ready to put in the barn. For this reason it can be easily cured in the fields in stacks under duck covers, thereby avoiding the expense of building barns, and saving labor by using sweep rakes instead of hauling the hay on wagons, after first cutting it with a mowing machine and raking it into windrows with a common horse rake. The hay is worth about $20.00 per ton and up, making the product of an acre yield $200.00 or over.

Kudzu is of even greater value for grazing purposes than for hay, as it requires no cultivation after the first season and will thrive upon land that is too poor and rough for any other crop. It has been carefully tested on all of the types of soil found in Florida and found to do well on all of them from pure sand to the stiffest clay, provided the land is sufficiently drained to admit of growing corn or velvet beans; where the soil is too wet to grow these successfully, it is also too wet for Kudzu. Like any other crop, Kudzu will make a stronger growth on rich land, but it does well on land that is too poor for other hay crops and rapidly improves the soil by drawing in nitrogen from the air through its leaves and fixing it in the soil by means of the bacteria in the tubercles on its roots, for it has the same power that cowpeas and other legumes have in this respect. This addition of nitrogen to the soil and the protection from washing rains and the baking heat of the sun afforded by the dense growth of vines, causes rapid improvement in the quality of the land planted in Kudzu; even poor, wornout land soon becomes like the rich soil that has been recently cleared from the virgin forest. Yet, although poor land becomes rich within a few years when planted in Kudzu, it is advisable to use some fertilizer on such soil the first season in order to hasten the growth of the Kudzu until it can draw in this atmospheric nitrogen. After this it will not require fertilizing, for its deep root system draws potash and phosphoric acid from the sub-soil, while its leaves draw all of the nitrogen needed by the plant from the air. In this way the soil becomes richer every year, instead of becoming exhausted as from growing grasses for hay. These deep roots live to a great age and become stronger and more vigorous as the years pass by.

One planting is permanent, and the yield of hay increases as the ground becomes more thickly set with plants from the vines taking root at the joints. The great number of vines struggling for air and light have a tendency to become more slender and leafy also, and this improves the quality of the hay by eliminating any coarse vines, thereby enabling horses and other live stock to eat it up cleanly without wasting any of it. The vines that run along the surface throw out roots at the joints, that become new plants and bind the soil firmly together, thereby preventing the washing and erosion of hillsides by heavy rains. While this improvement of the soil is taking place, the field is giving fine returns to its owner by the immense supply of rich green forage, on which the cattle, horses and other live stock can graze, thereby keeping fat and in fine health at a very small cost for eight months of the year.

The roots of the Kudzu penetrate so deeply as to make it proof against any dry weather that is ever likely to prevail here. This feature and its peculiar habit of neither blooming or bearing seed causes the vines to remain green and growing during the entire term from spring to fall. The hay can accordingly be cut at any time that is convenient when weather conditions are suitable for curing the hay, as Kudzu does not become injured by waiting for good weather as other hay crops do. This feature gives an immense advantage over any other hay crop.

Kudzu is propagated by means of the plants that have rooted from the joints of the vines, and when transplanted carry with them on their roots the tubercles that are needed to inoculate the soil of the new field so as to provide for fixing the nitrogen from the air into the soil. In planting Kudzu, first plow the land deeply and harrow it, then check it into rows 8½ feet apart each way, setting a plant at each check. Lay tap roots along the bottom of the furrow with crowns slanting upward to within two inches of the surface, covering them with loose earth to the level of the surface. This requires 1,018 plants per acre. Give them level cultivation during the first season. A row of cotton may be grown between each row of Kudzu the first season if desired. After this they will need no further cultivation, as the vines will run all over the ground the next season and take root at the joints, growing so rapidly as to choke out all other plants, (even such pests as nut, Johnson and Bermuda grasses), yet, it is an easy matter to get rid of Kudzu if desired, for the plants will only sprout from the crowns, and can be killed by cutting off these crowns with a disk plow in hot, dry weather in summer. For this reason there is no danger of Kudzu ever becoming a pest.

Kudzu will be an excellent crop to replace cotton in boll weevil sections; the demand for the hay is strong and there is no danger of raising too much, as it can be sent to all parts of the world for a market. After the first season there will be no further expense except for harvesting the hay, which requires much less labor than making cotton, and it will enrich the soil instead of making it poorer as cotton does; this will avoid having to buy fertilizers. It is free from insect enemies and diseases also, and for these various reasons will be far more profitable than cotton.

Agricultural scientists have been searching in vain for such a plant as Kudzu, and it will fill a long-felt want among our farmers. Unfortunately, however, the supply of plants is very limited and the demand for them cannot be fully supplied for many years to come.

Kudzu is perfectly hardy all over the United States and endures the winters as far north as Nova Scotia. It will, therefore, be a valuable crop in the northern States as well as in the South, although the longer growing season South will be an advantage.

KUDZU AND JAPANESE SUGAR CANE.

The Solution of the Forage Problem in the South.

By C. E. PLEAS, Chipley, Florida.

The Man Who First Introduced Kudzu to America as a Forage Plant.

One great cause for the slow development in Southern Agriculture has been the lack of good, nutritious pastures and roughage that lasts throughout the entire year.

What we need, is a forage that stock can live fat on the year round. There are many most valuable cultivated crops that make great yields, etc., but their period of mature life is short, making frequent plantings necessary in order to have a complete succession. The Velvet Bean is an all-season crop, yet it is not ready to feed until November. The Cowpea, Soy Bean, and the various sorghums and millets are good forage crops, but all must be planted in succession, and cultivated for best results. And for those that are to be harvested before feeding, the farmer only has a few days in which to get it in in its prime condition, and that is frequently impossible in sections of frequent rains, especially during the rainy season.

All the legumes, (with the exception of Kudzu), are more or less bad about dropping their leaves and shattering while curing and harvesting. And a heavy rain on them, or any of the grass, hays or fodders, while curing, means serious injury, if not ruin. Kudzu overcomes all these difficulties and has many other features in its favor. One planting lasts for many years and it may be cut or pastured at any time during the season, from about the middle of April, in North Florida, till frost; and where a growth is left on the ground, stock will feed on it all winter. I found that my stock would eat the dead leaves and vines that had laid out and weathered till March, and then been hauled in for bedding, in preference to the best hay I could buy. They ate the Kudzu out from under their feet and left the $20.00 hay in their mangers.

The next winter after making this discovery, I had all this trash raked up and hauled and piled outside the barn before we began digging and shipping plants, and wintered two horses and a milk cow and a calf or two, on that alone as roughage, giving them their usual grain feed, of course, and every one of them came through the winter in as good condition as they had formerly done on good hay.

I do not mention this to advocate such a method, but merely to illustrate the fact that Kudzu does not lose its feeding value as readily by rain or neglect as other forage plants do, and that there is something about it, even in its poorest condition, that appeals to the animals' appetite. And the properly cured hay has a delicious fragrance, resembling tea, that is irresistible to stock.

To illustrate the endurance of Kudzu hay in rainy weather, I would cite that in 1908 we made our first cutting with a two-horse mower, cutting 5-12 of an acre in July, from young plants set the year before. The yield was 2.88 tons per acre, and when almost dry the following morning after cutting it, it rained just enough to soak the hay good. When dry the next day and men were in the field cocking it up, there came a very hard rain and it drizzled along for three days. Just how badly it suffered could not be determined, but it looked better than velvet bean hay ever does, and the stock ate it with apparent relish. In 1912 we cut near 20 tons from about six acres planted in 1910, and with the exception of about two tons that were cut before the rainy season set in, all of it was thoroughly soaked one or more times while curing, and yet no one , who did not know the facts, would suspect that it had ever had a drop of water on it, and it was doubtless better than most shipped hay.

As to Kudzu's adaptability for cutting or pasturing at any time during the season, I would point out that hay taken May 1 analyzed 17.60% protein; that taken July 30 (a third cutting), analyzed 14.80% protein, while that which had stood all the season without cutting or pasturing, analyzed 16.59% protein, and an exceptionally well cured sample analyzed as high as 19.82% protein and about 35% carbohydrates.

In my 35 years' experience in farming in different States, and with various hay crops, I have never seen a hay that cured so quickly, held its leaves so well, or kept its color so perfectly, under various conditions, as Kudzu does. It does not require lime as in the case with Alfalfa and some other legumes. It does not require a rich soil, and, so far as our experiments have gone during the past ten years, fertilizing is not only unnecessary, but unprofitable; and I have had plantings in which some were located in the very poorest of soils—soil that would not produce corn, melons, or even cowpeas—and, with the exception that the young plants did not start off quite so readily on these poor spots, no one could tell the difference at the end of the second season.

We have never used a pound of fertilizer of any kind, except in a very small way as an experiment, and I am safe in saying that our poorest soil will produce six tons of dry hay per acre in a season, when the plants become matured, without fertilizer; and I have had as high as ten tons per acre on ordinary soil.

Kudzu is known to thrive in all the United States, as an ornamental vine, and therefore it must be adapted to a greater variety of soils and conditions than almost any other plant. And if it will thrive thus as an ornament, why not under field conditions, making allowance, of course, for a proportional yield as the season is long or short in different localities?

Our native cattle manage to subsist the year round on the indigenous wire grass, and for two or three months in the spring are fat enough for the block, while many die of starvation during the winter and are too poor to butcher the balance of the year, for want of nutrition. Blooded stock cannot stand range conditions and subsist on wire grass alone. They require nutritious feed the year round, and Kudzu comes nearer filling this want than any other one forage; yet it is deficient in some feed elements, and to make up the deficiency I recommend the Japanese Sugar Cane, the two making practically a balanced ration. The best way of feeding this combination is, in my mind, to put the cane in the silo and pasture the Kudzu during the growing season, with the cane silage to balance, say a feed at night, and in winter feed Kudzu hay and silage.

This cane is a true sugar cane and not a sorghum and is not propagated from seed, but by laying the matured stalks, which grow very readily and increases in yield from year to year, stooling out from the past season's stubble each year until it makes a very dense growth, and producing as many as 75 or 100 stalks to a single hill, with a yield of 25 tons or more of green forage per acre.

But for the farmer who cannot afford a silo, this cane may be cut and piled, about frost time, and fed in racks, first running it through a cutter or chopping it into short lengths, or it may even be pastured, but pasturing is wasteful, as is also the method of feeding the stalks whole, as much will be tramped under foot.

This cane is adapted to the various soils of our gulf coast region from South Carolina to Texas and for a distance of some 250 to 300 miles north of the Gulf. For sections north of the limits of this, cane sorghum may be substituted, though an annual and not nearly so productive.

In the green state, Kudzu contains less water than the clovers, cowpeas, velvet beans and alfalfa, etc., which enables it to cure so quickly, the heaviest cuttings requiring only 24 to 28 hours in ordinary weather.

It does not injure horses like alfalfa and is less liable to cause bloat in cattle than clover. In fact, it has every evidence of being ideal for all kinds of stock, and for dairy purposes. One test was to feed it to a milk cow that had never produced yellow butter in the two years we had owned her. The effect was like magic in a few days' time she was making the first yellow butter since we had owned her, and on the dry hay at that.

We have not been able to pasture Kudzu or cut it very extensively, owing to the great demand for plants which has required our entire acreage to be devoted to plant production, but we, as well as others, have tried it sufficiently to know that it is entirely successful if not overpastured. Our plan is to have a succession of three or four fields and when one is pretty well eaten down, say in two or three weeks, turn into the next, etc.

Most people think that because Kudzu is a vine and makes such a tremendous growth in a season, that it must be practically impossible to cut and handle it as a hay crop. Our repeated experience has been that it is no more trouble to cut or handle than a like heavy crop of red clover, Mexican clover or pursley, crabgrass or any other hay that makes a matted growth, and it is far less trouble to handle than either cowpea or velvet bean hay. Unlike the velvet beans or cowpeas, Kudzu is anchored to the ground every few inches so that the vines cannot drag ahead of the mower blade as do the cowpeas and beans.

We do not look for the dividing line in cutting, but watch the left mower wheel instead and see that it follows in the track of the right wheel of the previous round. We straighten out the guard rod, on the inner shoe of the cutter bar, and set forward and just as high as will allow the doubletrees to pass over it without hanging, and the trick is done. Every vine is thus forced down by the traces and under this rod and cut in two, leaving no cross vines longer than the width of the swath.

We turn the hay with forks immediately after cutting, and in doing this it is an easy matter to separate it into fork-fulls and handle it the same way throughout the process of curing, loading and housing, and when thus handled in bunches it will come out of the mow the same way in feeding, and is easier taken out of the mow than any other loose hay I have ever handled.

On a heavy crop of three or three and a half tons per acre, there is little need of a rake, as it is not the trouble to gather up that short hay is, and when in the cock it covers about one-fourth the ground. The teeth stand straight down and do not catch on the ground vines, yet serves the purpose perfectly.

I believe the side-delivery rake would work in Kudzu all right, though I have not tried it.

Some writers and farm papers in describing and commenting on Kudzu, make the mistake of saying that the vine is coarse and grows very large. This is in a sense true, when the vines are allowed to grow for years without cutting or pasturing, but as a field crop the statement is misleading, for, when allowed to stand the entire season, the vines are no coarser than velvet beans and they become woody when cut as hay. Under field conditions, the vines rarely live over winter, and usually die back between the plants. But even if they did live over, it would be an easy matter to go over the fields with a disc or cut-away harrow and remedy that during winter. Even that will be unnecessary when pasturing, for the stock will tramp these runners so that they will never make trouble.

After years of experimenting with the various methods of propagating Kudzu, we have discarded all except the self-rooted plants. The seed germinate very poorly if at all, and must be grown in beds for a year before transplanting, and the resulting plants usually have but one root—a tap root—that cannot be taken out whole. True, the self-rooted plants cannot be taken out whole, but they have many branches usually, which is far better than only one piece.

The cutting method of propagating, we discarded after several unsuccessful attempts. We could get perhaps one per cent to live, but they never made vigorous plants, and had the same fault as the seedlings — they were not inoculated.

Our self-rooted plants are all inoculated; in fact it would be impossible to find one that does not carry the bacteria with it when handled in the usual manner. Thus soil inoculation is unnecessary.

For planting, I prefer old ground or at least second-year new ground, and if possible land that had velvet beans on it the year previous. I break the ground "broadcast" and prepare it as for a seed bed by using the drag last. Then I lay it off in five foot rows and set the plants about every five feet in the row. This will require about 1600 plants per acre. One man and a boy can set several acres in a day. The man carries a shovel and opens up the holes by sticking it in the ground and pressing the handle forward, while the boy, carrying the plants, sticks them in back of the shovel, with the crowns about an inch below the surface. The shovel is removed and the man steps on each side of the plant to press the earth firmly, after it falls back on the plant.

The proper time for planting Kudzu is two to three weeks in advance of corn planting time or a little earlier if one can get the ground ready. A full crop of corn may be grown on the same land the first year by dropping the grains between the plants. Neither will interfere with the other, and both need about the same attention, only the ground should be left smooth and level at the last cultivation to permit easy rooting of the vines or runners, and subsequent mowing for hay. Plants cannot root as well on a rough surface.

The advantage of Kudzu over other hay crops are almost legion, and one cannot realize them until he has fully tried it out. Some get the idea that it will become a pest, once they get it on their farms. I have had it for ten years and have not found it so in any particular. If it gets into the fence rows let it go and you will soon have some most valuable feed in the place of the worthless weeds and briars. When your crops are off, turn the stock in and they will clear your fence corners out. If you ever do wish to get rid of it, (and I would not advise it, as it is the most valuable crop one can raise), put enough stock on it to keep it grazed close for about two months in the spring, and the work is done. Or it may be thoroughly broken, preferably with a disc plow, after cutting, during the hottest, dryest seasons, or after killing frosts in the fall, and rarely ever a plant will survive.

At the nominal price of hay, which is about $20.00 per ton in the South, and at the low estimate of five tons per acre, think what a few acres of Kudzu would mean. I have yet to see any other crop that will yield such a revenue with so little labor and expense, and at the same time build up the soil.

It has taken the velvet bean fifteen or more years to reach its present state of popularity and usefulness, and there are now thousands of head of cattle and hogs fattened on it annually, and I venture the assertion that in fifteen years there will be ten times as many fattened on Kudzu and Japanese Cane.

The South is waking up to the fact that it can grow feed stuff cheaper than the North can, and the North is beginning to realize the same thing, and it will be only a few short years till this section will be teeming with Northern stock raisers and farmers, to supply the Northern markets. Now is the time for the Southern farmers to get busy and be on the ground floor.

To give an idea of what is already being done, I might add that over fifty thousand plants were set out the past season in West Florida alone, that I know of, and probably twice as many in other States.

Parties who only had a small area last year have increased it many times over, the past winter one man putting out forty acres, another ten, and so on, while our own acreage is only limited by amount of cleared land on our farms. Another year we expect to at least double our acreage, and those who are in a position to know what Kudzu is actually doing, have only the highest praise for it. Same may be said of the Japanese Cane, for the two should go together.

To get an idea of one successful grower's estimate of Kudzu, I wrote him to know the lowest figures that would buy his acreage, either entire or on a five or ten-year lease, and he refused to set any price.

SERUM TREATMENT OF HOG CHOLERA

BY THE "SINGLE" AND "DOUBLE" METHODS

BY CHARLES F. DAWSON, M. D., D. V. S., VETERINARIAN.

METHOD OF DISTRIBUTION.

In accordance with Chapter 6167, Laws of Florida, 1911, the State Board of Health, in August, 1911, commenced the administration of hog cholera serum, sending its veterinarians to such points as requests came from. The number of calls for this service increased so rapidly that it was found impracticable to attempt to detail men, oftentimes a long distance, to perform this work, and in many cases the veterinarians were so busy that compliance with requests was delayed and the owners became dissatisfied because of the loss of hogs from cholera.

At the 1912 annual meeting of the State Board of Health, the compliance with the statute and methods to be followed were thoroughly discussed, resulting in placing the distribution of the serum upon an entirely new basis. The Board now furnishes 1,000 c. c. of serum free. Agents, one or more to the county, administer the serum at a specified cost to the owner.

It should be distinctly understood that the administration of serum to well hogs does not prevent the disease nor does it cure the disease. What it does do is this: When administered to hogs soon after they are exposed to hog cholera and before they have developed the disease, it so modifies the course of the disease that few die.

CHARGES.

The following scale of charges for administering hog cholera serum when the work is done at a reasonable distance from the residence of the agent, is suggested by the Board, and any radical departure therefrom is to be considered an imposition upon the owner of the hogs and will be sufficient reason for withdrawing the agent's appointment:

10 hogs, $1.50; 15 hogs, $1.75; 20 hogs, $2.00; 25 hogs, $2.25; 30 hogs, $2.50; 35 hogs, $2.75; 40 hogs, $3.00; 45 hogs, $3.25; 50 hogs, $3.50; 55 hogs, $3.75; 60 hogs, $4.00; 65 hogs, $4.25; 70 hogs, $4.50; 75 to 85 hogs, $5.00; 90 to 100 hogs, $6.00; for over 100 head, add the stated charge for each number.

In cases where the distance is great, special arrangements as to charges may be made between the owner and the agent for doing the work, as, in any case, this is a personal and business matter.

INSTRUCTIONS.

The hypodermic syringe for administering hog cholera serum should be of 30 cubic centimeters capacity and should have rubber fittings so that it can be thoroughly disinfected.

It is suggested in all cases, where the agent is preparing to comply with an owner's request for the administration of serum, that arrangements be made beforehand so that the work may proceed with the greatest dispatch. The owner should be requested to have his hogs penned previous to the arrival of the agent and should furnish at least two men to catch and hold the hogs, as the operator must keep his hands and syringe clean and free of dirt. This he cannot do if he handle the hogs.

The injection is made under the skin on the inside of the thigh where the skin is loose and where there is least fat. The serum should be poured into a cup which has been previously sterilized with boiling water. This cup should be covered to keep out dirt and flies. Before each puncture with the needle the same should be dipped into a solution of formalin, one to four parts of water, or the skin at the site of the injection may be painted with iodine, so as to disinfect the wound made by the needle, and thus prevent abscesses.

DIRECTIONS FOR USING AND TAKING CARE OF HOG-CHOLERA SYRINGE.

To *tighten* plunger: Draw plunger all the way out, and turn till the little pillars engage in the corresponding slots in the head of the syringe. Then turn piston to the left two or three turns, being careful not to turn too often, as you may crack the glass barrel.

When through work, wash out the syringe in clean water and then with 5 per cent. carbolic acid or other disinfectant.

Never put syringe away, leaving plunger tight, as dry rubber clings to dry glass.

To *loosen* plunger: Draw out the plunger, as for tightening, and turn the piston to the right. The rubber plunger should, at times, be removed and loosened, as it has a tendency to adhere to its metal frame.

The needles should be cleaned, dried and oiled, and put into the places provided for them. Study the syringe, and get familiar with it before attempting to use it. A little time thus spent will pay, and your syringe will last a long time.

The syringe with six needles can be ordered from The Bettes' Pharmacy, Jacksonville, for $4.50, as can also parts that wear out or become useless.

FACTS ABOUT HOG CHOLERA SERUM AND ITS DISTRIBUTION.

The serum can not cause hog cholera, nor does it cure hog cholera. It may exert some slight curative effect, but must be used in doses that are so large as to make it unprofitable to use. The State Board of Health does not supply serum fo rsuch use.

To get the best results, serum must be used as soon as cholera appears in the drove.

If the place at which the serum is injected is not cleaned and washed with a disinfectant, 5 per cent. carbolic acid, *abcess may occur*. In the case of pregnant sows or large and unruly animals, make the injections behind the ear, snubbing the animal against a post, by means of a rope looped around the chest. The syringe should be loosened up in its parts after a day's work, thoroughly washed out, and disinfected; otherwise abscesses will occur in the next hogs treated.

Serum does not hurt the meat. The stain left on the meat will pass away in time. Unlike in other diseases, it is not necessary to separate the sick from the well, but it is highly advisable to bury or burn all animals that die, thus preventing, in a measure, the disease being carried to your neighbors by carrion-eating birds. When properly used, the serum protects the hog for about a year, the life of the pork hog. Breeders must be treated every year. The serum does not cause sick hogs to die earlier. Handling is the cause. It is a waste of serum, the owner's time and the State's money to treat sick hogs. Serum should not be applied for until you have arranged with your local agent who has a syringe to do the work for you. The owner pays the agent for his work. Owners who are familiar with the work, and who have their own syringe, may obtain serum. The serum can only be obtained by applying for same on the application blank, and agents should keep a supply of these on hand. Serum ordered and not used should be returned immediately, if the bottle has remained unopened, at the sender's expense. When possible, the serum should be kept on ice. In other cases, it may be kept in a hole in the ground, in a shady place.

Please be careful to fill out the blanks and answer all questions as far as you can, on the application blank, being sure to give your postoffice and express office addresses, and the name of your local agent. A separate application for each owner is necessary. No attention will be paid to those disregarding this rule.

The active Hog Cholera Agents of the State Board of Health are as follows. Consult your Agent when you wish to have your hogs treated:

ALACHUA COUNTY.

Alachua—J. E. Haynesworth, M. F. Studstill.
Campville—Dr. G. W. Sherhouse.
Gainesville—Stafford Burgis.
Micanopy—E. D. Matthews.
Newberry—J. B. Smith.
Rochelle—Dr. George M. Floyd.
Trenton—H. W. Arrington, George Asbell, J. B. Smith.

BAKER COUNTY.

Macclenny—R. C. Crews, E. W. Turner.

BAY COUNTY.

Panama City—Bascom B. Mathis.

BRADFORD COUNTY.

Dukes—O. L. Mizell.
Lawtey—Dr. G. W. Brown.

CALHOUN COUNTY.

Altha—C. A. Langford.
Blountstown—J. L. Griffin.
Henderson—T. Fields.

CITRUS COUNTY.

Citronelle—W. F. Sutton, W. F. Vause.
Crystal River—J. T. Rawls.
Floral City—Walter J. Young.
Hernando—Dr. A. D. Puterbaugh.

CLAY COUNTY.

Belmore—E. E. Geiger.
Green Cove Springs—J. L. Batten.
Middleburg—M. M. West.

COLUMBIA COUNTY.

Benton—C. W. Cone.
Lake City—J. B. Brown, P. G. Brown, J. P. Perry.

DE SOTO COUNTY.

Bowling Green—L. R. Sealey.
Brownville—V. H. Freeman.
Fort Green—Dr. C. A. Gavin.
Gardner—F. O. Baldwin.
Limestone—A. Albritton.
Murdock—W. J. Quick.
Wauchula—Jos. Chews, R. 2, Ira C. Williams.

DUVAL COUNTY.

Broward—J. S. Higginbotham.
Jacksonville—L. W. Dugman, R. F. D. 1, Grand Crossing; F. M. Holcomb, Box b 145, R. F. D. 4, on Black Creek or Lackawanna.
Mandarin—Dr. Geo. D. Kennedy.

ESCAMBIA COUNTY.

Atmore, Ala. (R. F. D.)—J. L. Godwin.
Pensacola—S. W. Hiatt.

GADSDEN COUNTY.

Chattahoochee—J. L. Sunday, Jr.
Greensboro—M. C. Gardner.
Havana—M. E. McCorquadale.
River Junction—J. H. McDonald.

HAMILTON COUNTY.

Jasper—Dr. J. H. Corbett.
Jennings—S. S. Smith.
White Springs—H. R. Goodbred.

HERNANDO COUNTY.

Brooksville—W. G. Hope, A. P. McKeown.
Istachatta—Dr. McKnight.

HILLSBORO COUNTY.

Durant—J. B. Hundly.
Plant City—W. L. Holloday, R. T. Kelley.
Tampa—Dr. F. W. Porter, R. W. Weatherington, 1707 16th St.
Thonotosassa—R. W. Weatherington.
Youmans—O. B. Wiggins.

HOLMES COUNTY.

Bonifay—C. A. Fulford.
Noma—Dr. R. B. Warren.
Westville—Dr. D. G. Milton.

JACKSON COUNTY.

Campbellton—Dr. W. A. Parrish.
Cottondale—G. W. Belser.
Grand Ridge—W. J. Bradley.
Jacob—Dr. M. W. Eldridge.
Sneads—A. J. Brunson.

JEFFERSON COUNTY.

Aucilla—Dr. W. N. McLeod.
Lamont—Dr. W. H. Walker.

LAFAYETTE COUNTY.

Day—A. J. Fowler.
Mallory—T. A. Fletcher.
Mayo—D. C. Geiger.

LAKE COUNTY.

Leesburg—Geo. C. Oberholtzer, Wm. R. Newell.
Okahumpka—R. R. Crabb.

LEE COUNTY.

Fort Myers—W. H. Towles.
Woodrow—Dr. H. A. Smith.

LEON COUNTY.

Bloxham—L. W. Stoutamire.
Chaires—J. W. Dutton.
Tallahassee—T. M. Atkinson, Frank Robinson (col.).

LEVY COUNTY.

Bronson—M. T. Marshburn.
Chiefland—H. W. Arington.
Echo—T. C. Hogan.
Morriston—Lawton Priest.
Newton—Geo. Asbell, Trenton.
Williston—W. F. King, R. F. D. 1.

LIBERTY COUNTY.

Bristol—A. W. Turner, Dr. E. K. Thagard.

MADISON COUNTY.

Madison—D. R. McQuarrie.

MARION COUNTY.

Berlin—S. J. McCully.
Fairfield—D. B. Mathews.
LeRoy—J. D. Williams.
Ocala—Dr. J. H. Dunn.
Sparr—W. Luffman.

ORANGE COUNTY.

Orlando—E. H. Baker, Dr. B. D. Wienenga.

OSCEOLA COUNTY.

Kissimmee—J. E. Lupfer.

PASCO COUNTY.

Trilby—J. T. Daniel.
Dade City—J. E. Soar.

POLK COUNTY.

Bartow—A. O. Graddy.
Brewster—W. S. Gullett.
Bradley Junction—W. H. Surrency.
Haines City—L. B. Overstreet.
Fort Meade—A. H. DeVane.
Kathleen—A. H. Lewis.

PUTNAM COUNTY.

Kenwood—M. E. Leonard.
Keuka—C. H. Price.
Sisco—J. E. Wells.

SANTA ROSA COUNTY.

Berrydale—J. M. Nobles.
Botts—O. O. Simmons.
Jay—C. V. Mixon.
Milton—D. W. T. Edger.

ST. JOHN COUNTY.

Dewey—H. L. Manners, Bayard.
Dupont—Dr. D. B. Brown.
Durbin—H. L. Manners, Bayard.
Elkton—Dr. F. S. Whitney.
Hastings—Dr. A. Dolan.
St. Augustine—Dr. B. A. Leak.
Switzerland—H. L. Manners, Bayard.

SUMTER COUNTY.

Coleman—B. C. Bridges.
Oxford—T. E. O'Dell.
Webster—Dr. S. C. Wood.

SUWANNEE COUNTY.

Dowling Park—Jno. P. Howland, Jr.
Live Oak—T. Z. Atkeson, J. M. Ross, A. C. Johnson.
Newburn—Jno. P. Howland, Jr.
O'Brien—Dr. J. H. Reynolds, T. C. Williams.
Wellborn—A. S. Hogans, Dr. McClellan.
Wilmarth—C. W. Cheshire.

TAYLOR COUNTY.

Perry—W. H. O. Johnson, Barney O'Quinn.

VOLUSIA COUNTY.

Bunnell, Favorita, Harwood, Hammond, Ormond, Seville, Volusia—Dr. D. B. Brown, *Dupont.*

WAKULLA COUNTY.

Sopchoppy—Chas. K. Allen.
Wakulla—G. S. Neesmith.

WALTON COUNTY.

DeFuniak Springs—J. C. Smith.
Florala, Ala. (R. F. D.)—P. S. McClung.
Laurel Hill—J. B. Steel.

WASHINGTON COUNTY.

Chipley—D. G. McQuaggie, Dr. J. G. Phillips.

COUNTY FARM DEMONSTRATION AGENTS.

(*Who are also Hog Cholera Agents.*)

COUNTY	AGENT	ADDRESS
Alachua	Stafford Burgis	Gainesville
Baker	E. W. Turner	Macclenny
Bay	B. V. Mathis	Panama City
Bradford	O. L. Mizell	Dukes
Calhoun	J. E. Yon	Blountstown
Citrus		
Clay	W. E. Brown	Green Cove Springs
Columbia	J. D. Brown	Lake City
DeSoto	Jos. Crews	Wauchula
Duval	W. L. Watson	Jacksonville
Escambia	S. W. Hiatt	Gonzalez
Gadsden	M. C. Gardner	Greensboro
Hamilton	S. S. Smith	Jennings
Hernando	J. T. Daniel	Brooksville
Hillsboro	R. T. Kelley	Plant City
Holmes	C. A. Fulford	Bonifay
Jackson	C. W. Belser	Marianna
Jefferson	E. W. Lumpkin	Monticello
LaFayette	D. C. Geiger	Mayo
Lake		
Leon	Frank Robinson (col.)	Tallahassee
Levy		
Liberty	A. W. Turner	Bristol
Madison	D. R. McQuarrie	Madison
Marion	S. J. McCully	Berlin
Orange	C. H. Baker	Orlando
Osceola	B. E. Evans	Kissimmee
Pasco	I. E. Soar	Dade City
Polk	A. A. Lewis	Kathleen
Santa Rosa	O. O. Simmons	Botts
St. John		
Suwannee	T. Z. Atkeson	Live Oak
Taylor	T. H. Stripling	Perry
Walton	J. C. Smith	DeFuniak Springs
Washington	D. G. McQuagge	Chipley

SPECIAL NOTICE.

Notice is hereby given that the general public interests require that a limit be placed upon the amount of hog-cholera serum that a hog owner may receive free from the State Board of Health.

The rapid increase in the demand for this very expensive product entails an unprecedented expenditure of the public money for an animal disease which has very little connection with public health matters.

The law authorizing the State Board of Health to distribute serum without cost to the farmer does not specify the amount of such product to be distributed; hence the Board has furnished serum upon demand of the farmer, without limit.

You are now notified that the State Board of Health will, after October 1, 1914, supply not more than 1000 c. c. (one quart) to any farmer, in any twelve months.

You are also notified that the Board, in response to a general demand, will also supply the "double method" to such persons as have been instructed in its application; but, as in the "single method," assumes no responsibility whatever for any bad results.

SERUM MAY BE PURCHASED.

Realizing there are farmers who will require more than 1,000 c. c. (or a quart) of the serum, the maximum amount an applicant may receive free in one year, arrangements have been made whereby owners can obtain, through this Board, hog-cholera serum and virus, without limit, at cost price as given below. Serum and virus will be furnished only in the sizes stated in price list.

The syringes, thermometer and disinfectant may also be ordered through this office, at cost price, as given in schedule of prices following:

PRICE LIST.

50 cc bottles of serum (@ 1c per cc)	$ .50
100 cc bottles of serum (@ 1c per cc)	1.00
250 cc bottles of serum (@ 1c per cc)	2.50
500 cc bottles of serum (@ 1c per cc)	5.00
50 cc bottles of virus (@ 1c per cc)	.50
Eight ounce bottles of disinfectant (undiluted)	.25
Syringe, 30 cc, for injecting serum	4.50
Syringe, 8cc, for injecting virus	3.25
Thermometer, for use in "double method"	1.00

Orders for any one or all of the above items may be entered, by letter or in person, in any quantity, cash with order. Postoffice or express money orders or cashier's checks are acceptable. Personal checks will not be accepted in payment. Make all remittances payable to Dr. Joseph Y. Porter, State Health Officer. All orders will be sent at purchaser's risk. None of the items is returnable.

In order that the owner may calculate the amount of serum required for a given number of hogs, the dosage with and without virus is given. No formal application is necessary when serum is purchased.

DOSAGE WITH SERUM ONLY (SINGLE TREATMENT).

To each 5 to 15 pound pig give 10 cc serum.
To each 15 to 25 pound pig give 15 cc serum.
To each 25 to 50 pound pig give 20 cc serum.
To each 50 to 75 pound shoat give 25 cc serum.
To each 75 to 100 pound shoat give 30 cc serum.
To each 100 to 125 pound hog give 25 cc serum.
To each 125 to 150 pound hog give 40 cc serum.
To each 150 to 200 pound hog give 45 cc serum.
To each 200 to 250 pound hog give 50 cc serum.
To all hogs over 250 pounds give 60 cc serum.

THE DOUBLE METHOD.

This method, which is the only method to prevent all deaths from cholera, should only be used by owners who realize the dangers, when improperly employed, and the State Board of Health will not furnish the Virus required to any one who does not make a statement that he understands the method and has the virus syringe and the thermometer used in employing it, and who can give satisfactory evidence that the rules governing its administration will be carried out by the owner.

The method consists in a previous injection of a dose of serum and later of a simultaneous injection of a larger dose of serum and a very small dose of virulent hog-cholera blood. If the serum lacks in potency, or is given in insufficient quantity, the animal will not be protected from the disease in a fatal form, produced by the virulen virus. To get a lasting immunity from the double treatment a serum of high potency must be injected against a virus of high virulence. There should be no noticeable sickness produced by the method. This immunity lasts for about a year. Breeders should be double-treated once a year, and this method is highly recommended as being the one to use on hogs that are worth the necessary attention. It is a cheap form of hog insurance.

DIRECTIONS FOR APPLICATION OF THE "DOUBLE METHOD" OF VACCINATING HOGS.

Hogs should be gotten up the day before and fed lightly. Especially should the grain ration be cut down considerably.

There should be ample help for catching and holding the animals. On no account must the hogs be chased. They should be placed in a small enclosure to obviate the necessity of chasing.

Ascertain the temperature by passing a clicinal thermometer into the rectum and allowing it to remain there two or three minutes. If the temperature is above 104, SERUM ONLY should be injected, in the usual dosage indicated on the bottle. If the temperature is below 104, the double method may be employed, using dosage indicated on page 12, or on the bottle.

To give the double method, inject the SERUM exactly as you have done in the past, and then inject the VIRUS with the small syringe, giving the dose indicated for the weight, on the bottle, previously having disinfected the areas operated upon, with iodine or other good disinfectant.

Do not allow the hogs to run out at once in the heat of the day; but keep them up in a cool, clean, dry place for forty-eight hours, for the wounds made by the operation to heal.

While the loss in almost negligible from the operation, do not be surprised if you lose a small percentage, at times. When hogs are made visibly sick they have the genuine hog cholera, and are capable of infecting the premises and other hogs.

Do not double-vaccinate sows that are over half ready to farrow. Do not double-vaccinate pigs until they are weaned. Pigs of the immune mother are immune during the sucking period.

No animals should be thrown violently. The handling throughout should be in as gentle a manner as is compatible with the work in hand. All large animals should be snubbed up to a post and be treated standing.

For your own protection the owner should be told of the possibility of loss resulting from the treatment.

DOSAGE WITH SERUM AND VIRUS (DOUBLE TREATMENT).

To each suckling pig 20 cc. serum and ½ cc. virus.
To each shoat weighing 25 to 50 lbs., 25 cc. serum and ¾ cc. virus.
To each shoat weighing 50 to 75 lbs., 30 cc. serum and 1 cc. virus.
To each hog weighing 100 to 125 lbs., 40cc. serum and 1½ cc. virus.
To each hog weighing 125 to 150 lbs., 50 cc. serum and 1½ cc. virus.
To each hog weighing 75 to 100 lbs., 35 cc. serum and 1 cc. virus.
To each hog weighing 150 to 200 lbs., 60 cc. serum and 1¾ cc. virus.
To each hog weighing 200 to 250 lbs., 70 cc. serum and 2 cc. virus.
10 cc. for each 50 lbs. weight; maximum dosage 90 cc.

LUNG WORMS AND HOG CHOLERA.

Investigation has shown that sickness and deaths in swine in Florida are frequently due to the presence of worms (Strongylus paradoxus) in the lungs. These worms cause bronchitis and pneumonia or "thumps" or "pants," these latter names being the popular ones.

Agents are, therefore, requested to determine if the animals are infested with these worms before supplying the hog cholera serum, as this treatment is useless for worms.

As aids to the agent in determining the lung worm disease, a general statement may be made that hog cholera kills hogs of all ages, while lung worms are found causing sickness and death in swine up to about three months of age. If necessary, a pig should be killed to determine the presence of these worms. Remove the heart and lungs, wash them free of blood and look for bright or pale-red spots at about two inches from the edges of the largest lobes of the lungs. When the worms are very plentiful the affected areas of the lungs may be much larger. They have somewhat the color of the meat of a young calf. Cut through these parts of the lungs and press upon them and you will be rewarded by finding the small, thread-like worms protruding from air tubes which have been cut across. They vary greatly in size, according to age, from two inches long, down to sizes when they can hardly be seen. When you find this condition existing, do not treat for hog cholera, as your work will be useless, and the results will create dissatisfaction. Of course, lung-worm disease and hog cholera can co-exist. You can determine the presence of hog cholera by a careful reading of the bulletin on hog cholera which has been sent you. If both diseases exist, as shown by the examination of a sick pig that has been killed, or of one that has been found dead, treat for hog cholera and advise the owner to give special attention to the small animals by furnishing them with good feed, and making the animals inhale daily the smoke from burning leather, feathers or rags, or the fumes from tar, creolin or sheep-dip generated by pouring these substances upon hot iron or bricks. As the disease is kept going by pigs remaining on soil they have infected by coughing up the worms and their eggs, it is wise to change their living places frequently, and also the drinking water.

THE BOWEL WORM AND HOG CHOLERA.

Hogs of all ages frequently die from peritonitis caused by punctures of the intestine by this worm. They have violent pain in the belly. There is loss of appetite, constipation and restlessness; the animal will paw and burrow and apply their teeth or snout against the sides; the animals grow thinner and thinner; there may be convulsions or fits, and young pigs may die in three or four days. A large percentage of the pigs may die. The worm may be found attached to the inner lining of the bowel and is from six to ten inches long, and has a curved body. It has a thorny head and is called the Giant Thorn-head worm (Echinorrynchus gigas).

As in the case of lung-worms, good can be accomplished by a frequent change of pasture. Any of the hog salts, found on the market, containing copperas and laxative medicines may do good when fed as per directions over a sufficient period of time.

IMPROVING ACID SOILS.

By A. W. Blair.

Chemist Agricultural Experiment Station.

The soil in many sections of Florida are acid (sour), which is unfavorable for the best development of many crops. Soils that are low and wet, especially muck soils, are likely to be acid. It is generally safe to assume that our pine-land soils are more or less acid, if there is no indication of phosphate rock, limestone, or marl, at or near the surface. Hammock soils may also be acid, though in some cases the hammocks have a layer of marl a little below the surface.

CAUSES OF ACIDITY.

1. Alkaline materials, such as potash, soda, lime, and magnesia, which can neutralize or counteract acids, have, to a large extent, been washed out of our soils by the action of drainage waters. (The State Geologist, in Bulletin No. 1, of the Geological Survey, stated that dissolved material is being carried into the sea through the Silver Springs at the rate of about 600 tons per day.) In this dissolved matter, carbonate of lime greatly predominates.

2. Organic matter, such as grass, weeds, or stalks, decays in the soil with the formation of organic acids, which, on acount of their slow solubility, tend to accumulate in soils not well supplied with alkaline materials like lime.

3. Certain fertilizing materials, sulphate of ammonia in particular, tend to increase the acidity of soils that are naturally deficient in alkaline materials, owing to the

plants using the ammonia to a greater extent than they do the sulphuric acid.

CORRECTIVES.

Alkaline materials generally will counteract or neutralize any acid. In improving an acid soil, the aim should be to get an alkaline material that is cheap and that can be easily handled. To a large extent, lime in its different forms fulfills these requirements.

Carbonate of lime is the form that occurs naturally. It is found as crystallized limestone or marble, as massive limestone rock, as marl, and as shells. It also occurs in certain soils in a newly divided state as the result of the decomposition of some of the above named materials Examples of such soils are found in the Bluegrass regions of Kentucky and Southwest Virginia. Carbonate of lime, in any form, if ground fine and worked into an acid soil in sufficient quantities, will correct the sourness. It will not take effect as rapidly as quick-lime, nor is it as concentrated. It should, however, be much cheaper. One hundred pounds of pure quick-lime are equivalent to 170 pounds of pure limestone; but, because of impurities, it should perhaps be best to take 200 pounds of carbonate of lime, in the form of ground limestone or ground shells, as the equivalent of 100 pounds of pure quick-lime.

Slaked Lime (hydrated lime) is made by slaking quick lime with just enough water to convert it into a fine powder. One hundred and thirty-two pounds of slaked lime prepared in this way are equivalent to 100 pounds of pure quick-lime.

Unbleached hardwood ashes contain about 25 to 30 per cent. of lime in addition to 4 to 6 per cent. of potash, and when they can be had at a reasonable price they may be used with profit on acid soils.

Basic, or Thomas, Slag contains about 40 per cent. of lime in addition to 17 or 18 per cent. of phosphoric acid.

and if a moderate application of lime is needed along with a heavy application of phosphoric acid, this may be used. In our experiments with pineapples, basic slag has given good results.

APPLICATION.

If ground limestone or shells are used, and the soil is found to be highly acid (by testing with litmus paper), two tons per acre in two or three years will not be excessive. If the soil is only slightly acid, one ton per acre may suffice. Only half the amount need be applied if quick-lime is used. Old, thoroughly air-slaked, lime may be used in about the same amount as ground limestone.

Lime may be applied at almost any time, though it would perhaps be better to apply it during the late winter or early spring, so that it may be thoroughly worked into the soil before the rainy season sets in. If fertilizers containing sulphate of ammonia are used, it would be better to apply the lime one month before or one month after the fertilizer application.

CROPS BENEFITED BY LIME.

Most vegetable and fruit crops are benefited by the use of the lime where there is a tendency to acidity of the soil. It has, however, been shown that watermelons do best on an acid soil. It has also been shown that lime makes the conditions more favorable for the development of scab on the Irish potato.

With celery, lettuce, cabbage, citrus fruits, hay, and forage crops, it may be used liberally.

MATERIALS FOR CORRECTING SOIL ACIDITY.

BY P. H. ROLFS.

The entire State of Florida is underlaid with limestone of such quality as to make, when ground, excellent material for correcting the acidity of the soil. Various limestone beds have been extensively studied by our State Geologist (Dr. E. H. Sellards, Tallahassee), whose reports may be had for the asking. In addition to limestone, we also have in Florida extensive beds of marl, many of them sufficiently pure to make good material for correcting soil acidity. Finally, along the sea-coast, around the larger lakes, and along most of our waterways, we find extensive shell mounds. The shells of these mounds might well be ground and utilized for correcting soil acidity.

Aside from these natural materials, several commercial substances are available to us for neutralizing soil acidity. In most cases, however, the results obtained could be more cheaply accomplished by using the natural supplies.

LIMESTONE AND LIME.

Ground Limestone is the safest and most satisfactory material to use. It is a natural product, and may be added to the soil in any quantity without serious danger of doing harm. It should not be forgotten, however, that there are special cases in which it would be inadvisable to apply ground limestone. From one to three tons shou'd be used on soils showing slight acidity, and a larger amount on soils that are decidedly acid; while on some soils that are very acid the use of as much as eight to twelve tons will be found profitable.

Hydrated Lime is made by slaking quick-lime with just enough water to convert it into fine powder. Samples analyzed at the Experiment Station show that commercial hydrated lime is made up of oxide of lime, hydrate of lime, and carbonate of lime. When most carefully prepared, 74 pounds of hydrated lime are about equal to 100 pounds of limestone; so if we use about two-thirds the quantity of hydrated lime in the place of ground limestone we shall be nearly right.

Quick-Lime or Burnt Lime is made from limestone by driving off the carbon dioxide gas. One hundred pounds of pure limestone will make 56 pounds of quick-lime. If, therefore, we wish to use quick-lime, we may apply approximately half as much as we would if we were using ground limestone.

OTHER SUBSTANCES.

Hardwood Ashes have long been employed as a source of potash, and more recently have been used to a considerable extent for correcting soil acidity. There is much variation in the amounts of potash and lime contained in hardwood ashes. They contain generally about 3 to 6 per cent of potash, and may be used at the same rate as we would ordinarily apply fertilizer to the soil.

Basic Slag, or Thomas Slag, as it is sometimes called, has been employed to a considerable extent as a fertilizer in Florida in recent years. This material is made from the refuse from iron or steel mills. It contains about 40 per cent. of lime in addition to about 20 per cent. of phosphoric acid. The lime in the mixture is a strong corrector of acidity, being less effective in this direction than the same amount of quick-lime or hydrated lime, but having the advantage of also carrying phosphoric acid. It was found a useful source of phosphorus in our fertilizer experiments with pineapples.

Nitrate of Soda, when used in our fertilizer tests in the citrus groves, was shown by Prof. Collison to correct the acidity of the soil. The soda left in the soil after the nitrate had been used by the plants acted as an alkali.

USING GROUND LIMESTONE.

By P. H. Rolfs.

The amount of ground limestone to be used will vary greatly according to the acidity of the particular piece of land, even different parts of the same acre showing different degrees of acidity. A soil that is only slightly acid will need from one to two tons of ground limestone; soils that are decidedly acid will require about twice as much; and some of our most acid soils will be benefited by as much as 8 to 12 tons per acre. Many farm crops are benefited by an application of ground limestone, even when the soil does not show acidity. Plants of the legume family are especially benefited by such an application. Celery, lettuce, cabbage, citrus fruits, hay and forage crops, generally prefer a large quantity of lime in the soil. Watermelons, on the other hand, do well on an acid soil.

WHEN TO APPLY GROUND LIMESTONE.

It is best to apply ground limestone to the soil a considerable time before the crop is to be planted. The application should be made before plowing, as this will give an opportunity to incorporate the material more evenly with the soil, and will give the beneficial soil organisms an opportunity to increase to large numbers.

If it has not been possible to apply ground limestone before the soil is broken up, it may be applied before planting time. It is advisable, however, to apply it a considerable time before one wishes to use fertilizer, since the acid phosphate of the fertilizer on coming in contact with the ground limestone is likely to be reverted more quickly than desirable.

Formerly it was considered necessary to have the limestone ground into a very fine powder; later experimentation has shown that a rather more coarsely ground limestone is quite as beneficial and more lasting. Dr. Hopkins, of the Illinois Experiment Station, considers that the limestone is ground fine enough if it can pass through a sieve with 10 meshes to the inch. Since there are included in this material all the finer particles that are produced in grinding, a sufficient amount of lime will be available at once for the needs of the plants.

MOST FLORIDA SOILS ARE ACID.

The soils of Florida are for the most part made up of silicious particles, and have no available alkali or base to neutralize any acidity. In a few cases where an abundance of limestone occurs in our surface soil it is a corrector of acidity, but by far the larger percentage of our sandy soils are acid.

Our muck soils are nearly all acid, there being very few exceptions. These are not only acid, but very strongly so, and frequently require a very large amount of ground limestone to correct the acidity.

In addition to the fact that most of our soils are naturally acid, this condition is intensified by some of our fertilizers, especially where large amounts of sulphate of ammonia are used. When such materials are broken up, as they are in the process of being made available to plants, the acid radical is left in the soil. This fact was brought out in our experimental citrus grove and noted in our Annual Report.

HOW TO TEST FOR SOIL ACIDITY.

Soil may be tested readily for acidity. This can best be done in the field. Procure strips of litmus paper from the drug-store, of both kinds, pink and blue. In using this litmus paper, care should be taken that the fingers do not touch it, since the perspiration from the hands is usually acid enough to turn the blue to pink, and in testing soil after the paper has been handled a false reaction might occur. The soil to be tested must not be too dry. A small amount of soil may be taken up, and if it can be pressed into a good ball it usually contains enough moisture to show the reaction. Break the ball of soil open and place two strips of paper (blue and pink) in the break, then press tightly together again. In the course of ten minutes examine, and if the paper has been thoroughly wetted the condition of the soil may be noted. If the blue litmus paper has turned pink the soil is acid. If the pink paper has turned blue the soil is alkaline. If no change in color occurs the soil is neutral. The degree of acidity can be told in a general way by the degree of pinkness if the paper was formerly blue. The subsoil as well as the soil should be tested.

GROUND LIMESTONE FOR SOUTHERN SOILS.

By Professor Cyril G. Hopkins.

"A limestone country is a rich country." This is a proverb and a truism much older than American agriculture. But every soil can be made a limestone soil, simply by liberal applications of pulverized limestone. The initial application of four tons per acre of ground limestone, with subsequent applications of two tons per acre every four years, will make and maintain a limestone soil on every Southern farm; and this is the first great economic step to be taken in that positive soil enrichment which is needed to treble the average acre-yield of the land now under cultivation and to restore to profitable agricultural use the vast areas of tillable land now lying neglected or agriculturally abandoned in most Southern States.

In the northern part of the Southland, especially in the Piedmont and intermountain regions, some soils are found for whose permanent improvement ground limestone is all the farmer needs to buy, although as a general rule phosphates must also be applied; and in many cases, especially on the more sandy soils of the Coastal Plain, potash salts must likewise be added. In a few places soils have been found which, though deficient in potassium (the important plant-food element contained in potash salts), are naturally rich in prosphates (compounds containing the element phosphorus), and thus require the purchase of only limestone and potash salts.

Southern farm soils are almost invariably sour, or acid. In other words, they contain essentially less than no limestone, for moderate applications of limestone will be destroyed by the soil acidity. Thus one may apply one ton of ground limestone per acre to certain land and still have no limestone in the soil, or a four-ton-application may leave only three tons for future benefit, after the acidity existing in the plowed soil has been neutralized.

LIMESTONE AND LEGUMES.

With liberal applications of limestone (and phosphorus or potassium added, if needed) most Southern soils can be made to produce abundant crops of such valuable biennial or perennial legumes as red clover, alsike clover, sweet clover (mellilotus) and alfalfa; and these when infected with the proper bacteria have direct access, almost twelve months in the year, to the inexhaustible supply of nitrogen in the air. The biennial and periennial legumes store up very much more nitrogen and organic matter in their roots than do the annual plants, such as cowpeas, and one seeding (sometimes with a nurse crop and with no extra preparation of the seed bed) may provide a legume crop to occupy the land for from two years to five years or more.

These deep-rooting legumes are the "best subsoilers," and in many ways they are the best soil-improving crops. Furthermore, they are splendid pasture crops, and if not cropped too closely (a bad practice for any pasture) they will furnish grazing from early spring till early winter. These are among the most valuable crops in profitable live-stock farming; and nothing is needed more for the development of live stock in the South. Moreover, clover and alfalfa are the best crops to precede corn, as is well known by every corn-belt farmer.

Limestone and legumes must constitute the foundation for corn and cattle in the South.

KINDS OF LIME.

Ordinary limestone is calcium carbonate ($CaCO_3$), composed of the three primary elements, calcium, carbon, and oxygen, as anyone might know from the name if he will only remember that the ending "ate," on the more common chemical names, signifies oxygen.

When 100 pounds of pure limestone are burned, 44 pounds of the gas carbon dioxide (CO_2) are driven off, and 56 pounds of quicklime, or calcium oxide (CaO), remain. Quicklime is ordinary fresh-burned caustic lime. When moistened, the 56 pounds of quicklime take up 18 pounds of water (H_2O) and make 74 pounds of water-slaked, or hydrated, caustic lime (CaO_2H_2). If this is exposed to the air it gradually absorbs carbon dioxide, gives off water, and finally returns to the original compound, calcium carbonate; so that 100 pounds of thoroughly air-slaked lime has exactly the same composition as 100 pounds of ground limestone. The hydrated limes on the market usually contain some moisture in excess of that required for hydrating or slaking; also some absorbed carbon dioxide, and often the most impure lime from the kiln is used for making this product, so that 80 or 90 pounds of hydrated lime may correspond to 100 pounds of limestone.

A somewhat less common but yet very abundant form of limestone is dolomite, or dolomitic limestone. This when pure is a double compound of calcium carbonate ($CaCo_3$) and magnesium carbonate ($MgCO_3$), or calcium magnesium carbonate, $CaMg(CO_3)_2$, containing with 100 parts of calcium carbonate 84 parts of magnesium carbonate.

USES OF LIME.

Ordinary limestone serves two very important purposes in soil improvement: One is to correct the acidity of sour soils, and the other is to supply the element calcium as plant food; and in most soils calcium is much more deficient than potassium, and even more deficient than phosphorus in many soils. Dolomite not only corrects soil acidity and supplies calcium, but it also supplies magnesium, another essential element of plant food, the supply of which is very limited in some soils. Dolomite has even greater power than the more common limestone in correcting acidity, 184 pounds of dolomite being equivalent to 200 of calcium carbonate.

In pure form 56 pounds of quick lime or 74 pounds of hydrated lime would have the same power to correct soil acidity as 92 pounds of dolomite or 100 pounds of ordinary limestone. In other words, with ground limestone at $1.00 a ton or ground dolomite at $1.09, the hydrated lime would be worth $1.35, and the quicklime $1.79 per ton, except for one other very important fact; and this fact is that caustic lime is caustic.

THE KIND OF LIME TO USE.

According to the dictionaries, the word *caustic* means "capable of destroying the texture of anything by eating away its substance by chemical action." This definition well describes the destructive action of caustic lime on the humus or vegetable matter of the soil; and when the vegetable matter is destroyed the nitrogen which it contains is liberated and in part dissipated, so that the use of caustic lime, whether fresh-burned or hydrated, augments the difficulty of increasing or maintaining the humus or nitrogenous vegetable matter of the soil. This problem is already serious enough in Southern agriculture, and if possible we should avoid burning the humus out of the soil with caustic lime.

In agriculture, as well as in religion, it is well to remember the injunction to "be ready always to give an answer to every man that asketh you a reason of the hope that is in you;" and attention is called to the following reasons for the hope of Southern agriculture in ground limestone:

FINENESS OF GRINDING FOR LIMESTONE.

Ground limestone is readily available; and if very finely ground it is likely to be too available, too easily soluble;

because, as a rule, the loss by leaching far exceeds that by cropping. As an average of forty years at Rothamsted, the annual loss amounted to about 800 pounds of lime carbonate per acre. In Illinois an investigation covering ten years showed the average annual loss to be 780 pounds per acre. With the more porous soils and heavier rainfall of the South the danger of loss is still greater.

Preliminary investigations by the Illinois Experiment Station indicate the dolomite is more durable than the ordinary limestone. The information bearing on the fineness of grinding is sufficient to justify the conclusion that the screen or sieve used need not be finer than 10 meshes to the inch (100 per square inch), and that it should not be coarser than 4 meshes to the inch, with all of the finer material produced in the process included in the product.

The advice sometimes given that limestone should be ground so that it will all pass through a screen with 50 or 100 meshes to the linear inch has no justification. Such grinding increases unnecessarily the cost of material, increases the cost of application (by requiring annual or frequent application) and increases the loss by leaching. Where used liberally at less frequent intervals in rational, profitable, permanent systems, an 8-mesh or 10-mesh screen is amply fine for the most economic product, especially for the ordinary limestone consisting chiefly of calcium carbonate.

AMOUNT OF LIMESTONE TO USE.

While heavier initial applications of ground limestone may produce even greater benefit, and would certainly do no harm, four tons per acre are sufficient to give very satisfactory results, and subsequent applications of two tons per acre every four years will maintain limestone in the soil. Heavy applications reduce expenses in perma nent system of soil improvement, by saving in labor of frequent applications and by making use of less finely ground material.

In all systems of permanent profitable agriculture durability is of greater importance than immediate availability. If all of an application is "immediately available," it may be almost immediately lost by leaching with heavy rains. For high-priced truck crops which must be hastened for the early market, the grower may need to take this risk, but in general farming it is far better to use durable materials, which gradually becomes available during the growing season, and for several seasons. From the standpoint of permanent farm profits, there has been vastly too much emphasis placed upon "availability" and far too little upon durability in soil improvement.

An English record of 1795 mentions the "prevailing practice of sinking pits for the purpose of chalking the surrounding land therefrom," and states that "the chalking of land so circumstanced is the best mode of culture they are capable of receiving." Director Hall of Rothamsted (the oldest Agricultural Experiment Station in the world), in referring to this use of natural lime carbonate, states that many of the farmers in that part of England are still reaping profitable crops from lands enriched by heavy applications of chalk.

As much as 20 tons per acre of ground dolomite limestone has been used in this country with only beneficial results; and there are fields in England which have received more than 100 tons per acre of lime carbonate, resulting only in favorable effects extending over more than a century. Of course such enormous applications are altogether unnecessary, but they are likewise altogether harmless and the material is not lost, but it approaches a permanent investment, somewhat like the purchase of the $200 corn-belt land with its immense store or stock of fertility.

THE TIME TO APPLY LIMESTONE.

As to time of application, due consideration should be given to other necessary farm work, conditions of weather, land and roads in relation to the hauling and spreading of limestone. It is not applied for the sole benefit of one crop, but for all the crops in rotation, although its greatest benefit is upon the legume crops; and one good plan is to apply the limestone after plowing the ground (or, with heavy applications, part before and part after plowing), and before preparing the seed-bed where some of the clovers or alfalfa are later to be seeded, but whether a day or six months later is a matter of secondary importance. The primary essential is to get the limestone on the land, and convenience or economy in getting the work done is usually the factor which should govern the time of application.

No single method need be followed in applying limestone to the land. It may be applied by hand with a light shovel, either from the wagon or from small equal sized piles placed at regular intervals. Thus a pile of 100 pounds every 24 feet each way makes about four tons to the acre.

HOW TO MAKE A SPREADER FOR LIMESTONE.

A spreader made for the purpose of applying ground limestone is very useful. Several spreaders are manufactured that serve well for applying small quantities of lighter material, but most of them are not suited for handling heavy applications of such materials as ground stone or rock. A "home-made" spreader, which any farmer can have made with the help of a local blacksmith is more satisfactory for spreading these heavy materials than most of the machines on the market.

Make a hopper similar to that of an ordinary grain drill, but measuring 8¼ feet long with sides at least 20 inches wide and 20 inches apart at the top. The sides may be trussed with 3-8 inch iron rods running from the bottom at the middle to the top at the ends of the hopper. Let the bottom be 5 inches wide in the clear with 2-inch holes 5 inches between centers. Make a second bottom to slide under the first on straps of iron 10 inches apart, which should be carried from one side to the other under the hopper to strengthen it, also with holes to register. Both bottoms may be of sheet steel or the lower one may be of hard wood, reinforced with strap iron if necessary.

To the lower and movable bottom attach a V-shaped arm projecting an inch from under the hopper, with a half-inch hole in the point of the V, in which drop the end of a strong lever, bolting the lever loosely but securely to the hopper with a single bolt, and fasten to the top of the hopper a guide of strap iron in which the lever may move to regulate the size of the opening by sliding the lower bottom. Make a strong frame for the hopper, with a strong, well-braced tongue.

Take a pair of old mowing machine wheels of good size and with strong ratchets in the hubs, and fit these to an axle of suitable length (about 10 feet) and 1 3-8 or 1½ inches in diameter. The axle should be fitted with journals bolted to the under side of the frame. Make a reel to work inside the hopper by securing to the axle, 10 inches apart, short arms of 3-8 inch by 1-inch iron and fastening to the arms four slats or beaters of 5-8 by 3-4 inch iron about an inch shorter than the inside of the hopper, the reel being so adjusted that the beaters will almost scrape the bottom but will revolve freely between the sides. The diameter of the completed wheel is about 5 inches and it serves as a force feed.

Hundreds of these "home-made" machines are in use, and they are usually more satisfactory and more durable than anything on the market. The cash expense for such a machine has varied from less than $10 to more than $30, depending on how much of the materials and labor must be paid for. Farmers with some mechanical skill may hire only the necessary blacksmiting.

SUGGESTIONS REGARDING APPLICATION.

In hauling and spreading limestone it is of first importance to save time and labor. As a rule it is far more economical to purchase in bulk and have it shipped in box cars, although wetting will do no harm except to give trouble in spreading. Bags are expensive and easily damaged, and with tight wagon boxes they are wholly unnecessary. If bags must be used in handling the limestone the purchaser should bag it when hauling from the car. As a rule the plan should be to haul the limestone directly from the car to the field, transfer from the wagon to the spreader and spread at once upon the land.

With a haul of two miles or less, and with two men, one boy and two teams, with three wagons and one spreader, 40 tons of ground limestone can be taken from the car and spread over 19 or 20 acres of land in three days, providing the roads and other conditions are favorable, or 30 tons can be removed from the car in two days, the last two or three loads being kept on the wagons and spread the third day if necessary. When the haul is longer one or more additional teams are needed on the road.

STRAWBERRIES. (Fragaria)

By H. S. Elliot, *Chief Clerk Department of Agriculture.*

The strawberry belongs to the rose family and certainly deserves its botanical name, Fragaria (from fragra to emit a sweet odor), for no other fruit is so delicately and so exquisitely fragrant. There are perhaps a dozen species but all are allied to a greater or less extent but about four, which may be considered distinct species. Of these, the Fragaria Virginiana, the Virginia or Scarlet strawberry, is the source of our common wild strawberry, which is found from the Arctics to Florida, occuring in a great many localities throughout the country. The strawberry was apparently known to the Romans, but only in its wild state. The first mention of the cultivation is in England in 1483, during the reign of Richard the Third, but no improved variety appears to have been known until about the latter part of the 18th century after the introduction of the large flowered and the Virginia Strawberries. With the production of these improved seedlings, as well as hybrids, new varieties increased rapidly, until at the present time the number is almost unlimited.

The strawberry is a perennial plant which propagates itself by sending out runners on which at every few inches new plants are formed and which take root, and in turn send out runners. From these newly set plants on runners, new beds are transplanted into whatever form is desired. In this way the new plants reproduce the parent variety.

Plants may be propogated from seed, but the plants obtained this way will rarely produce the variety from which the seeds were taken, because of the cross pollination of the flowers. New varieties are originated by the planting seed, but other varieties are perpetuated by runner plants.

In a botanical sense the strawberry is not a true fruit, but belongs to what can properly be termed the compound fruits, such as blackberries and raspberries. Some varieties of strawberries produce without stamens, or the pollen producing (Male) organs, while others produce perfect flowers, or in other words those containing all of the essential organs of reproduction. The first of these are designated as Pistillate Varieties and the latter as bisexual. These latter are capable of producing fruit without the presence of other varieties, while the Pistillate Varieties must be planted in alternate positions with the bisexual or they cannot produce. To the grower of strawberries, especially if for market, we therefore suggest that he plant only the perfect varieties.

VARIETIES.

A variety may be adapted to a certain soil and climate, and yet be wholly unsuited under some varying conditions not far distant, where no reason for failure is apparent. One or two degrees of latitude may with some varieties bring total failure, while with others just the reverse is experienced; so it is that many varieties that succeed in the highest degree north of Florida, will produe practically nothing when attempted to be grown here and vice versa.

The principal requirements for market varieties or for private gardens either in Florida are:—

First, adaptability to our climate; second, productiveness; third, fair size; and fourth, quality which includes both flavor and firmness, the latter being positively essential, that the fruit may be able to stand the rough handling by transportation companies, so that it may be received at its destination in the best condition possible.

Of the considerable number of varieties that will succeed well in Florida, we will suggest only a small number of those apparently best adapted to our soil and climate.

Extra Early—Excelsior and Missionary.

Early—Improved Lady Thompson, Klondike, Heflin's Early.

Late Varieties—Gandy, Aroma.

All of these are perfect varieties, and by planting a succession of any of these in the order named, strawberries of the very best quality can be had for both foreign and domestic markets or home consumption, from December to June, in the various sections of Florida.

SOIL AND ITS PREPARATION.

The selection of soil and location for the strawberry farm should be made with a view to furnishing an ample water supply, for this is the one thing indispensable in successful strawberry culture. It is a very deep rooted plant, its roots having been traced to a depth of four feet. Consequently it must have an abundance of water, and surface watering is impracticable unless artesian water supply is available, and where the latter condition is obtainable there should be no doubt of the success of strawberry culture. But in either case a well drained, deeply stirred, friable sandy loam or clay loam soil containing plenty of vegetable matter will be more retentive of moisture and much more easily cultivated and kept free of weeds and grass. They are the best of all soils for growing strawberries.

In the preliminary preparation of soils for the planting of a strawberry farm, it is well to follow a series of well cultivated crops, two at least, for instance, corn and peas, or Irish potatoes and peas, or equally as good oats followed by peas, to eliminate the grass and weeds and place the soil in fine condition. After the peas are cut for hay, about the first to middle of September or before October the first, plow under the stubble thoroughly and then cross it with a good disk harrow so as to pulverize the soil and cut up any runners that may not be cut in turning under. Run out the furrows two, three or four feet apart, as may be preferred, where the strawberries are to be planted, and in these furrows spread the fertilizer; then bed on these furrows and flatten down the beds with a roller or hoe leaving them slightly elevated or oval in form, before setting the plants. This will leave the plants when set slightly elevated above the general surface, making cultivation easier and giving better drainage. It is prboable that the best distance for the rows to be apart is three feet and the plants set eighteen inches apart in the row. In small gardens any distance that suits the grower or the size of the garden will do.

PLANTING.

In setting the plants it is generally best to cut back the roots possibly about one-third. This can be rapidly done with a good pair of shears. Then in setting out the plants, spread the roots out in a natural position as near as possible, and never crowd them into a small round hole, and also in covering them be careful not to set so deep that dirt will get into the crown. Under usual conditions October is the best month to plant strawberries in Florirda, especially if irrigation is available.

Land for strawberries cannot be made too rich; all kinds of decomposed vegetable matter makes good manure, but weedy manure should be carefully avoided, as it will add to the trouble of cultivation.

CULTIVATION.

The plants should not be permitted to spread between the rows, but it does not matter if they run or mat between the hills of the row; these are the plants to propagate from. It is also well to mulch the ground between the rows with pine straw or other material, late in the fall when the plants are growing well, as a protection to the fruit, keeping it clean or free from dirt or sand, and this may also be continued into the spring, as sometimes it is necessary to cover the plants as a protection from threatened frost.

As before stated, water is absolutely essential to the production of fine berries, and it is a waste of energy time and money to make poor grades. Ship only the best, if best prices are desired.

There are three things that are absolutely essential to successful strawberry culture. They are: plenty of water, a rich, well fertilized soil, and thorough cultivation. If these cannot be had, strawberry growing for market at least had better not be attempted.

A good plan is to top dress the plants when they begin to put out their first new leaves well. This can be done by sprinkling the fertilizer alongside of the rows close to the plants and then working it well into the soil about the plants with rakes. A good fertilizer for this first dressing should be composed about as follows:

Ammonia	4 to 5 per cent.
Actual Potash	8 to 9 per cent.
Available Phosphoric Acid	6 to 7 per cent.

The above should be applied at the rate of about 600 pounds per acre. The next application of fertilizer should be made as soon as the first indication of bloom is seen, and it should be applied and worked in as in the previous instance, at the rate of about 500 pounds per acre. The second application is to produce the fruit in preference to plant growth, so we suggest a formula for a fertilizer about as follows.

Ammonia	3 to 4 per cent.
Potash	9 to 10 per cent.
Available Phosphoric Acid	7 to 8 per cent.

The above fertilizer, or any formula closely approximating them, can be had already prepared from the various manufacturers throughout the State. Machines for the distributing of fertilizer and mixing them with the soil are also to be had of either the fertlizer manufacturers or the hardware or implement dealers in most of the cities and towns in the State.

CATTLE TICK ERADICATION.

By Charles F. Dawson, M. D., D. V. S.

THE HISTORY OF TEXAS FEVER.

The State Board of Health is directed by law to look after the health of our domesticated animals as well as that of the people. This it has been doing for a number of years, and has had constantly in its employ the best veterinary talent it could obtain since 1902.

It is now proposed that Florida get into line with the other Southern States and start the work of eradicating the cow tick, which causes a disease of the blood which prevents that thrifty condition necessary in cattle that makes the raising of them a paying business. It is claimed by statisticians that this cow tick causes a loss of from $40,000,000 to $200,000,000 annually.

So it seems that this fact alone is the best reason that can be given for eradicating the tick. It seems wonderful that an agricultural interest can thrive under this enormous handicap, and also that comparatively so little has been done to remove it.

It may not be amiss at this time to say something of the history of tick fever in cattle. Dr. Salmon, chief of the Bureau of Animal Industry, in his letter of transmittal to the Secretary of Agriculture of the manuscript of Smith and Kilborne's work on Texas fever said:

"In the whole list of diseases affecting domesticated animals there is none so peculiar in its character or so mysterious in its phenomena, as was this one, previous to these researches. The dissemination of the deadly contagion by apparently healthy cattle, and the harmlessness in general of the really sick animals, were inexplicable by any facts which were furnished by the study of other diseases. Veterinarians who had not had an opportunity to observe this disease were skeptical in regard to the correctness of such conclusions, and some spoke of them as a 'romance in pathology.' These early observations have not only been confirmed, but the phenomena have been explained and our knowledge placed upon a scientific basis.

EARLY OBSERVATIONS.

"That Southern cattle in a state of health might bring destruction to Northern cattle was observed as early as 1796 by Dr. Pease, who observed an outbreak of the disease among cattle, in Lancaster county, Pennsylvania, following the passage of a herd of cattle from South Carolina. Dr. Pease made it the subject of an interesting communication in which he pointed out the peculiar fact that though the Southern cattle themselves seemed healthy, they scattered a peculiar disease in the northern territory they crossed. The literature upon the disease was very meager in those days, and the next important contributions were from the pens of Dr. R. C. Stiles of the Metropolitan Board of Health, Drs. John Gangee, John S. Billings and Curtis of the National Government, in 1868. In that year, Texas cattle shipped up the Mississippi river to Cairo and thence by rail into Illinois and Indiana early in June, caused during that summer enormous losses in cattle in those States. Eastern cattlemen became alarmed because cattle shipped from those states were dying of tick fever in the New York stock yards, and elsewhere. The cattle commissioners of New York State and the Board of Health of New York City became alarmed as to the possible harmful effect of such diseased meat upon the human health.

BOUNDARY LINE DETERMINED.

"The most important special contributions next made by Dr. D. E. Salmon, in his annual reports, as chief of the bureau of animal industry, in the years 1883-1884-85, in which years he determined the boundary line of the permanently infected territory.

"While it had long been known that this peculiar fever did not occur except where the cow tick existed, the relation of the tick to the disease was not definitely established until 1889, when it was observed by Smith and Kilborne, of the bureau of animal industry, that when young ticks are placed on cattle there develops a high fever accompanied by extensive loss of the red blood-corpuscles. These observations were repeated and confirmed in 1891 and 1892. However, Smith, in 1889, made the most important discovery connected with the disease. On October 23, 1889, he read a paper at the Brooklyn meeting of the American Public Health Association, in which he stated he had discovered a peculiar micro-organism in the red blood corpuscles of cattle suffering from tick fever, that it was the cause of the disease, and that this newly discovered organism was carried by the cow tick. This was a most important discovery, as it was the first instance in which it was proven that diseases may be insect-borne.

AN INCURABLE DISEASE.

"Tick fever may be said to be an incurable disease, or at least treatment is usually unsatisfactory as animals surviving an attack of acute tick fever generally make a slow recovery, and during the convalescent period are more subject to the attack of other diseases, owing to the resulting anaemia. The old answer for the treatment of diseases, given by the pert first year medical student—'remove the cause,' applies with great force here, when changed to 'remove the tick.' In all sanitary work, however, it is necessary to have the co-operation of the people in order to bring about the desired result; and this applies with special force in the eradication of an insect. There seems no special difficulty in exterminating the cattle tick, because of its peculiar life history. What has been and is being done in other states, can also be done in Florida.

"The latest reports show that about one-fifth of the tick infested territory has been already cleared of the tick. This work has been carried on by the co-operation of the federal, state and county governments, and already the results have been very pleasant and profitable to those sections that now enjoy a free and unrestricted cattle business with the great Northern markets.

ORIGINATOR OF TICK ERADICATION METHOD.

"The idea of tick eradication seems to have been originated by Dr. Cooper Curtice, former zoologist, and now veterinary inspector in the Bureau of Animal Inductry. Dr. Curtice was also the first to study the life history and development of the tick. His researches paved the way for tick eradication. In 1899, while State Veterinarian of North Carolina, he presented a plan of action to the commissioners of agriculture of that state for improving the cattle inductry, by tick eradication. That plan was put into operation, and by 1906, or in seven years, twelve counties in North Carolina had been released from quarantine. This practical demonstration of the feasibility of tick eradication attracted the attention of the federal authorities and also the other Southern states, and congress was asked for a small appropriation to be applied in assisting those states which had live stock laws, competent to deal with the subject.

"The federal appropriation was in 1907, $82,500; in 1908, it was increased to $150,000; and since, it has been $250,000 annually. Congress will be asked for an appropriation of $750,000 at the coming session.

ELEVEN STATES CO-OPERATING.

"In 1906, there were fifteen States more or less infested with ticks. Nine hundred and twenty-nine counties in these States were under federal quarantine on account of ticks. When the work was begun only seven States had laws that would enable the Bureau of Animal Industry to co-operate with them. Therefore, work could only be started in Virginia, North Carolina, Georgia, Kentucky, Tennessee, Oklahoma, and California. Since then, four other States, South Carolina, Alabama, Mississippi and Arkansas have enacted laws which allow of tick eradication.

"Up to April 1, 1911, or in five years, Virginia had cleaned up 24 counties of ticks. North Carolina had, unassisted, cleaned up 12 couties, when the work was started elsewhere in 1906; since 1906, with federal aid, that State has cleaned up 30 more, making 42 in all.

"In South Carolina, four counties are clean; in Georgia, 3; in Tennessee, 26; Alabama is clearing up 7 counties; Mississippi has cleaned 3; Arkansas 10; Louisiana 2; Oklahoma 7; Texas 7; California 3½; Missouri 4; Florida none. In all the States mentioned, except Florida, the work is in progress and, no doubt, many more counties will soon be released from quarantine.

"To state it another way, there were, originally, 741,515 square miles of tick infested territory in the Untied States. The cleared area, up to April 1, 1911, was 139,821 square miles, or one-fifth of the mileage area."

The above article on the history of Texas fever was presented for reading at the first meeting of the Florida Live Stock Association held at the University of Florida, December 17-19, by the State Health Officer.

THE CATTLE TICK.

Further study into the history of the cattle tick—the cause of Texas fever—brings to light the following information and shows that in all probability the cow tick was first collected and studied in Florida.

In 1818 Thomas Say, curator of the Philadelphia Academy of Sciences, with three companions, made a scientific survey of Florida. He collected ticks from deer, and in 1821 published a description of them which shows his specimens were of the same species as those now infesting Florida cattle. He named his tick Ixodes annulatus.

In 1867 C. V. Riley found the same tick infesting cattle in Missouri and named it Ixodes bovis. In 1891 Cooper Curtice changed the name to Boophilus bovis. Later, the name Boophilus annulatus was applied and now we call the great fever-producing tick of North America, Morgaropus annulatus.

OTHER SPECIES IN OTHER COUNTRIES.

The United States is not the only country that is infested with a fever-producing cattle tick; but no other country has our species.

There are three distinct species of fever-producing ticks; the North American, the Australian and the South African. The Australian species produces this cattle fever in Australia, South America, Cuba and Porto Rico and therefore has a very wide distribution.

There are eight different kinds of ticks that infest our cattle in the United States; but only one of these species can carry the fever. This one species is found resident only in the South, below the federal quarantine line, and is the most numerous of all. The body of the full grown engorged female is oblong-oval in shape and may reach one half inch in length. The color varies from a dull yellow to an olive brown and often is streaked with wavy lines of these colors. There are two longitudinal grooves on the back, at the front of the body, and three at the rear. These are more prominent at times, especially after the tick has dropped from the animal. The head parts are short and broad and of a chestnut brown color.

SOME OTHER TICKS.

From the tick eradicator's standpoint all ticks look alike. The harmless ones cannot produce Texas fever, but all species succumb to the arsenical solution, so that the question of the species cuts no figure in tick eradication operations. The harmless ticks have a different life cycle from the fever-producing tick. This tick, the common cow tick, cannot reach maturity unless it gets upon cattle, horses or mules, while all the other harmless kinds can develop independently. When the common cow tick does get on horses and mules, its progeny cannot produce Texas fever, but may acquire the germ from Southern cattle, whose blood always contains the parasite. Their progeny then become as infectious as those reaching maturity on Southern cattle.

While it is known that the fever germ is carried from cow to cow by the tick, no one has ever been able to discover the germ in the tick themselves, nor will extracts made by grinding the ticks and injecting this material into susceptible cattle produce the fever. Yet we can readily produce the fever by injecting a small quantity of blood from a Southern cow into a Northern cow by putting a few of the seed ticks upon a Northern cow. These seed ticks hatch out from the eggs laid by the old tick when she falls from the cow.

TRANSMITTED THROUGH THE EGG.

It, therefore, follows, that the germ of Texas fever is in some way transmitted through the egg to the young seed tick. These young ticks are very small and are barely visible when they first get on cattle. Hence they are at that stage capable of producing the fever and the susceptible animal may be very sick and even die without the owner noticing any ticks.

Other interesting facts are that the germ will live in the blood of animals removed from the South to the North for at least thirteen years. Texas fever can be produced by injecting some of this animal's blood into Northern cattle. Rough handling or bad treatment may induce a fatal attack of the fever in this supposedly immune animal. This explains why and how it is that Texas fever has occurred in animals when no ticks could be discovered on them.

ALLEGED IMMUNITY OF SOUTHERN-BORN CATTLE.

The mere fact that a cow is Southern born does not mean that she is immune to Texas fever. In fact it is claimed today that there is no such thing as immunity to Texas fever. However, Southern cattle do acquire a resistance when they are attacked by ticks from birth that the Northern-born cattle do not possess.

On account of the many failures to immunize cattle against the fever, and in this way improve the Southern breeds by the importation of finer cattle from the North and West, those interested in the subject have given up the idea, which at one time promised so much.

It was found that even though a fine bovine did successfully run the tick gauntlet the incessant attacks of ticks devitalized and impoverished the blood so that succeeding generations showed plainly a loss of the stamina possessed by the original stock. The logical thing to do is, therefore, to get rid of the cause—the tick—by the methods now in vogue for tick eradication. A result of this practice will be not only improvement of the scrub cattle as scrubs, for it can improve them in no other way. but farmers will be encouraged to improve their cattle by the introduction of finer animals of the beef and dairy types.

The following upon the life history of the cattle tick is copied from an address delivered by Dr. E. M. Nighbert, at the University of Florida.

LIFE HISTORY OF THE CATTLE TICK.

Facts on which the campaign for eradicating the pest is based: An intimate knowledge of the life history of the cattle tick is necessary. A knowledge of the manner in which the tick propagates must be had before eradication can be carried on intelligently and successfully.

Only a part of the development of the tick takes place on cattle, the remainder occurs in the pastures and ranges. The female tick, which is attached to the skin of cattle, increases enormously in size as a result of drawing large quantities of blood, and when fully filled with blood drops to the ground, where she at once begins to search for a suitable hiding place that will serve as a protection from the sun and enemies. These large juicy ticks are sometimes destroyed by ants, and thousands perish as the result of unfavorable conditions, such as hot weather, dry weather, or extremely wet conditions in the ranges, pastures, or swampy conditions that exist in the State of Florida. Thousands and thousands of ticks are destroyed in this way in the State without having laid any eggs. This condition accounts for few ticks appearing on cattle at times, and many more at other times, depending on climatic conditions.

Egg-laying begins during the spring, summer and fall months in two to twenty days, and during the winter months in thirteen to ninety-eight days, depending on weather conditions. The eggs are small, elliptical shaped bodies, of a light amber color that later changes to dark brown, one-fiftieth of an inch in length, coated with a sticky secretion that causes them to adhere in clusters and keeps them from drying out. During egg-laying the mother tick gradually shrinks and dies when all eggs have been laid. The egg-laying period continues from four days in warm weather to a hundred days if the weather is cool or cold, and during this period from several hundred to five thousand eggs may be deposited.

THE FIRST STAGE.

Within a few days in summer to several days in fall or winter after the eggs have been deposited they begin to hatch. From each one issues a small six legged seed tick, amber colored, later changing to a rich brown. It is very active in warm weather, but does not travel any distance. Its instinct is to ascend the nearest bit of vegetation, such as grass, herbs or shrubs, and wait for cattle. If cattle do not come its way it dies of starvation.

During its life in the pastures and ranges, the seed tick takes no food and does not increase in size. It must reach cattle or die of starvation. This fact is significant and is taken advantage of in the work of eradication of ticks. Their endurance, however, is very great, and under certain conditions they may live without nourishment from four and a half to six or eight months, especially during the colder part of the year.

The length of the period from the time females drop to the ground until all the seed ticks hatching from the eggs laid by them are dead, or in other words, the time required for pastures and ranges to become free of ticks after all cattle, horses and mules have been excluded or treated regularly every two weeks by dipping or spraying with the standard arsenic solution, varies with the season of the year, being shortest during the warm season and longest during the cold season. For example, all the seed ticks resulting from females dropped June 15th will be dead by November 1, a period of four and a half months; but some of those resulting from females dropped September 1, may survive for seven or eight months.

THE SECOND STAGE.

Further development begins when the tick reaches cattle, horses or mules. It at once begins to draw blood and increases in size. In about seven days it sheds its skin and the color changes from brown to white, the new form having eight instead of six legs, and known as a Nymph. In another seven days the Nymph tick sheds its skin. It is now sexually matured, and it is at this stage that males and females are conspicuous for the first time. The male tick is about one-tenth of an inch in length, it never becomes larger and displays great activity in moving about on the animal. The female is slightly larger but shows much less activity, seldom moving from her point of attachment previous to molting. After mating with the male, she rapidly engorges with blood, and in eighteen to twenty-one days, after first attaching as a seed tick, she drops to the ground to repeat the cycle of development. You see, then, by treating cattle regularly every fourteen days, the chain of life is broken, never to be again mended. The tick is completely exterminated. To accomplish this, all cattle, horses or mules using the ranges, pastures or cow lots that are infested must be considered.

TICK ERADICATORS MEET LAW MAKERS.

On January 3 and 4, duly appointed delegates from ten of the tick infested States had hearings before the house and senate committee on agriculture at the capitol in Washington.

On January 2, the delegates held a preliminary meeting at the Hotel Raleigh in Washington, for the purpose of deciding upon a line of action. At this meeting it was decided to divide the time allowed so as to give each delegate five minutes to explain the needs of his State.

ASK FOR $750,000.00 A YEAR.

It was also dcided to ask for an annual appropriation of $750,000, instead of $400,000, as originally intended. This increase was advised by the Secretary of Agriculture, who gave as his reason that it would be economy to increase the number of veterinary inspectors by 150, on account of the great progress already made in the work, the number of counties in the various States now awaiting federal inspection, the number of counties that would apply during the year for federal inspection, and because the work can now go on the year round, owing to the fact that much of it is being done in the southern parts of the States where it is warm enough to dip cattle.

DUTIES OF VETERINARY INSPECTORS.

These inspectors are appointed upon civil service examination. They must be veterinary graduates and pass a satisfactory examination in veterinary science. Each man costs the government about $2,500 a year, hence the increased amount asked for by the committee. The work of these inspectors is to supervise the building of dipping vats and show how the dipping is done. Then, when a county is said to be free of ticks, the inspector must visit every farm and satisfy the government that the representations made by the State officials are correct. Upon his favorable report that county is released from quarantine. When a farm, or a county, is declared freed from ticks, it will be illegal for anyone to bring upon that farm, or into that county, any cattle from a quarantined or ticky county.

Obviously, this means co-operation upon the part of county officials and even individuals. This co-operation is easily obtained when the beneficial results of tick eradication are perceived.

TICK-BITTEN HIDES ALMOST WORTHLESS.

It has been claimed that tick-bitten hides depreciate 10 per cent in value because they do not make good leather, and that this loss alone would pay for tick eradication. At the hearing before the Senate committee the statement was made that the loss on hides alone was estimated at 10 per cent.

At this statement a Northern Senator said: "I deal in calf hides, and I never pay more than half as much for Southern calf hides as I do for Western and Northern hides. They don't make good leather." Here is a loss of fifty per cent, instead of ten per cent, and the department officials were surprised when we told them what this business Senator had said.

We went before the Senate committee with more misgivings than we did before the House committee; but events made us reverse our opinion of the United States Senators. We were most kindly received. We were not hurried to the same extent as before that of the House. We all came away from the hearings encouraged. Each delegate made it his business to visit the members from his own State. We, of course, did not believe it possible that any representative of a Southern S·ate would fail to vote favorably upon this important subject, but we wanted them fortified by a more intimate knowledge of the vast importance of tick eradication.

NOT MERELY A SOUTHERN PROBLEM.

After all, tick eradication is not strictly a Southern problem, it is a national problem. What affects fourteen

States, affects the whole United States, and is, therefore, a national problem, and we were deterred from asking for millions instead of thousands, because it takes time to train men in the work. Tick eradication is merely a question of men and money. It is not an experiment. A State could be free of ticks in six months. We know what can be done, how long it takes to do it, and what the results will be. When once eradicated, the ticks are gone forever.

HOW COW TICKS DEPRECIATE VALUE OF FLORIDA CATTLE.

The 1910 agricultural census for Florida gives the following facts:

First. Cattle represent 45 per cent of the value of all live stock combined.

Second. In 1900 the cattle industry amounted to 56.8 per cent of the value of all live stock combined, showing a decrease of 11.8 per cent.

Third. There are 845,188 head of cattle in the state, valued at $9,262,262. The average price is less than $11 per head.

Statistics show that three per cent of our cattle die from exposure every year in this mild climate. Many know these 2,500 head of cattle do not actually die from exposure, as that term is generally understood; but that the cause of death is the cow tick and lack of care.

Under our present conditions, Florida cattle have no market except in other quarantined areas of the South, and in the foreign tick-infested countries to the south of us.

As long as this condition exists, Florida cattle, no matter how high their breeding or quality, must be sold under quarantine or as quarantined animals. This means they are always sold for less than they would bring if sold as coming from a tick-free state.

WHY THEY SELL FOR LESS.

Cattle, irrespective of breeding or condition, shipped to Chicago from Florida, must be shipped for immediate slaughter, and are held, pending slaughter, in special pens, by the national quarantine officers. The cars they are shipped in must be disinfected of the ticks that drop off, in transit. They must be sold for immediate slaughter. They cannot be held and fed for a few days awaiting a favorable market.

This extra trouble and expense attending the marketing of Florida cattle, of all breeds, and conditions, is paid for from the proceeds of their sale, and for this reason Florida cattle would bring from 1 1-2 to 2 1-2 cents less per pound on the Chicago market, or any Northern market, than similar cattle shipped from a tick-free state.

HIDES ARE WORTH LITTLE.

Even the hides of the Florida cattle are worth less per pound because a hide that is full of tick bites does not make good leather.

Therefore it is easily seen that cattle ticks exact heavy toll from this branch of our agriculture, by causing a large increase of the death rate, by causing a sickness which brings about shrinkage in size; by keeping people out of the cattle business, which could be made a paying one; by loss of the land fertilizing value of the animals that could be raised; by the loss in prices of meat products, in the price of hides, and many depressing influences upon farm life.

SEVERAL REASONS FOR ERADICATING CATTLE TICKS.

It is now recognized by all observing people that the cow tick is the principal cause of depression in the cattle industry of the South.

There is no other reason that is so apparent. The best cattle feeds that the world produces can be and are being grown right here in Florida. If our feeds were not of the best, other sections would not buy them.

FEWER ANIMAL PLAGUES IN FLORIDA.

All classes of animals, except cattle, do as well in Florida as in any other part of the United States. The difference is most marked when we consider the matter. In fact, there are fewer animal plagues in Florida than in most sections. There are very important diseases, which at times decimate the animal population in other sections, that do not occur at all in Florida. When, however, we compare our cattle with those in the North and West, and even now in those sections of the South where the tick has been exterminated, it does not require the expert's eye to see the difference.

CATTLE VS. COTTON.

The eastward march of the cotton-boll weevil has forced the farmers in one state to grow other crops because they can no longer borrow money on a crop so uncertain as a weevil-infested cotton crop. The surplus of the crop is fed through cattle, and as these bring rich returns, the farmer has demonstrated to himself that cattle are a money crop and that the raising of cattle is worthy of his most serious attention. He soon realizes that he cannot produce the best cattle in the presence of the tick, because successful cattle production and marketing demand the eradication of the tick.

WASHED CLEAN OF TICKS.

The great overflow of the Mississippi River last year was not entirely without a useful object-lesson in tick-eradication in the State of Mississippi. Cow ticks cannot survive being submerged in water any more than can other air-breathing animals. Several counties were entirely submerged and the cattle were either drowned or removed to other sections. Here was an excellent chance to secure an immense tick-free territory without further trouble or expense. Through co-operation and the enforcement of local quarantine, the flooded counties were not allowed to restock with any cattle that had not been cleaned of ticks by the dipping vat. The people of that section will now raise good cattle, and these may be sent to Northern markets to compete, on equal terms, with cattle from any other section.

WHEN THE COTTON-BOLL WEEVIL ARRIVES.

When the cotton-boll weevil arrives in Florida, our farmers will be forced into raising other crops. Some of these will be for cattle feed. The fertilizing value of these feeds will be returned to the soil by the cattle, as a by-product of the cattle business, and the commercial fertilizer bill will be materially reduced. It has been observed that fields upon which cattle have grazed show the effect of this manuring for twenty-five years.

This improved farming cannot reach its highest development if the cattle are forced to give up their blood to ticks instead of converting it into flesh and milk.

THE DAIRYMAN'S DOUBLE LOSS.

The dairyman's loss from ticks is from two direct sources, viz.: shrinkage in the milk output and deaths from Texas or tick fever.

When an animal has fever from any cause, milk production is either lessened or entirely suspended, according to the nature of the disease.

In acute Texas fever, the temperature runs very high, and the milk secretion is suspended. In chronic Texas fever, the kind we see most of, milk secretion is diminished. The shrinkage in milk production of cattle heavily infested with ticks will, according to a government report, average one quart a day. A dairyman can, therefore, easily figure out his loss in a year. Even if he lose one pint a day, he could figure up a bad case against the tick. Government experts figure up a loss in milk alone of nearly $800,000 a year, in the whole South.

ANNUAL LOSS OF ABOUT $8,500,000.00.

When a dairyman tries to improve his herd by the introduction of better milkers, he loses ten per cent of these imported cattle, even if they be immunized against Texas fever, and sixty per cent if they are so immunized. Then you must take into consideration these cattle are usually high-priced, and, in some instances, a valuable strain of animal that cannot be replaced, dies, and this loss is also to be charged up to the tick. About 4,600 such cattle are brought South each year. If ten per cent die, and they cost anywhere from one hundred to one thousand per head, the loss is from $46,000 to $460,000. The losses from deaths and shrinkage in milk production, therefore, cost the Southern dairyman about $8,500,000.00 annually, a sum that would probably pay for the entire cost of tick eradication in the South, if the co-operation of those most affected could be quickly obtained.

METHODS FOUND EFFECTIVE IN EXTERMINATING CATTLE TICKS.

The extermination of this insect pest is one of the easiest things imaginable, if we go about it in the right way.

This insect, as well as all others, develops according to a natural law; hence, if we take advantage of our knowledge of the life-history of the cow tick nothing is simpler or easier than its extermination, by interrupting its life cycle. It is so easy and simple that a five-year-old child can eradicate the ticks, from the family cow, and the small-fenced pasture she grazes on, by daily picking off and killing every large tick for a period of six months. The explanation of this is, that it is only the big ticks that lay eggs, and as they do not lay them until they voluntarily drop off the cow, picking them off by hand and destroying them by placing them in a can of kerosene or any oil, will end their career. In other words, if no big ticks lay eggs, there will be no young ticks to crawl upon the cattle. If there are no young ticks, there can certainly be no old ones. This method, known as the hand-picking method, is, of course, only applicable where there are a few head, from one to a half dozen.

THE SPRAYING METHOD.

This method is applicable to herds of half a dozen or more. The standard arsenical solution is sprayed on the cattle by means of a coarse nozzle, one that will force the spray through the hair and on to the skin. A fine spray that merely leaves a sort of dew upon the hair, such as those required in spraying plants, will not do. The liquid must penetrate to the skin, and to accomplish this the spray must be directed against the hair. The animals must be thoroughly gone over so that every tick will be hit. Particular effort must be made to wet the under surface of the body, and especially the tail, as it is this member which affords ticks easy access to the body when the cow passes through vegetation harboring the young ticks.

The animal must be sprayed every two weeks, fourteen or fifteen times. A half-and-half mixture of cotton seed oil and kerosene makes an efficient spray. The arsenical solution is the cleanest to handle, but the fact that it is poisonous must not be lost sight of. However, there is no more danger attending its use than in the case other arsenical sprays used on plants.

The arsenical spray is made on a small scale by dissolving four ounces of washing soda and one and one third ounces of white arsenic in five gallons of water by boiling fifteen minutes. Cool to 140 degrees (or to a point just a little too hot to bear) and add, in a fine stream, an ounce of pine tar, stirring so it will mix.

Gould's barrel and bucket spray pump with 12 to 15 feet of high pressure hose fitted with a simplex nozzle, using the largest size dics, is recommended as a suitable apparatus for spraying cattle.

THE DIPPING VAT METHOD.

This is the method par excellence for destroying ticks as well as other vermin that may infest live stock, and is the method that the federal government recommends most highly, because it admits of a thoroughness that is impossible by any other method.

A dipping vat consists essentially of a 1500 gallon cement tank built into the ground and filled with an arsenical solution composed of white arsenic, eight pounds; washing soda, twenty-four pounds; pine tar, one gallon; to every five hundred gallons of water. The arsenic and soda are dissolved in thirty or forty gallons of water by boiling. The syrup-boiling kettle so commonly in use in Florida would be excellent for the purpose; but it should be carefully washed out after using for this purpose. After the solution has cooled to a point that is just too hot to bear, the tar is added in a fine stream and stirred thoroughly. Now put the solution into the tank and add enough water to make five hundred gallons. Repeat two time more, and you have 1500 gallons in the tank.

These vats and other necessary arrangements for handling the cattle cost from thirty-five to one hundred dollars. according to cost of labor and materials. Plans and specifications will be gladly furnished. The arsenic, soda and tar are also inexpensive materials. The infested animals are made to jump into the vat one at a time, and as the vat is too narrow for them to turn around, they are forced to swim out at the other end where their feet strike an incline and they walk out into a dripping pen to dry off. This is repeated every two weeks fourteen times. After each dipping the animals are again placed upon the pastures, where they, of course, become reinfested.

As the life of the seed-tick is limited to four months, unless it gets on a cow, horse or mule, it is readily seen that those seed-ticks which failed in this have starved to death; while those that did get on cattle and develop have been destroyed in the dipping before the females could mature, drop off, and lay eggs. Hence, the farm and cattle so treated are ever after free of cow ticks, unless ticky cattle are introduced. In this case, the whole process would have to be repeated.

THE MEDICAL MAN AND THE TICK ERADICATION.

The present agitation for the eradication of the cattle tick has a special significance to the medical profession. Not only does the cow tick convey a blood parasite to the cattle it bites, but this parasite has some points in similarity to the malarial organism in man, in that it is carried by an insect, and that it lives in the red blood corpuscles, destroying these, reducing, in some cases, the corpuscle count to 1,500,000.

Of special interest are the facts that this intra-corpuscular parasite, the *Pyrosoma bigeminum,* was discovered by a medical man, Theobald Smith, M. D. The life history of the cattle tick, its host, was discovered by a medical man, and the idea of tick eradication was first introduced by the same medical man, Cooper Curtis, M. D. It is, therefore, to these three discoveries that the final riddance from the cattle industry of the formidable disease produced by this parasite will be due.

One of the chief glories to be added to those already enumerated is the fact that the discovery of Dr. Theobald Smith that this *Pyrosoma bigeminum*, carried by the cattle tick, the cause of Texas fever, or Southern cattle fever, or cattle malaria, was the first instance in the history of medicine, where it was proven by scientific investigation that a disease can be insect-borne. This was truly an epoch in medical history.

It is also of special interest that the cow tick can be eradicated. It is being eradicated. No other disease-producing insects can be eradicated. They can be controlled.

Digressing, what a boon to humanity, could mosquitoes and hookworms be eradicated. Malaria, yellow fever and uncinariasis would cease for want of carriers, and a cause.

Statement of Dr. C. F. Dawson, Veterinarian of the State Board of Health of Florida, Jacksonville, Fla., Before the Committee on Agriculture and Foresty of the United States Senate, January 4, 1913.

Dr. Dawson. Gentlemen of the committee, as Dr. Cary has just said, I come from a State which has not yet done anything in the line of tick eradication, but we are very much interested in the subject and expect to take it up soon. I have no doubt that the State Board of Health will take from its funds an amount equal to that of the other States which have started the work. I do nót think it well to ask for too much money from the State Legislature or from the Board until we get in a position to use it profitably. We have to know how to handle the money before we can handle it judiciously.

We have in Florida about 850,000 animals. These at $12.00 per head are worth $10,200,000. A three per cent. loss equals $300,000. Most of them are known as scrub animals, because they have been raised under Florida conditions, and that means under conditions which the tick produces. There is no section in Florida which is not infested with ticks. Some of our Southern States have sections, as we have already been told, where there never have been ticks. But I think in our State ticks are prevalent everywhere. We lose every year, according to the census—and I believe the report is not as heavy as it ought to be—3 per cent. That would cause us a loss of $300,000 worth of cattle every year from what is known as exposure. It is difficult to understand how an animal would die from exposure in a climate like Florida, but we must remember that exposure means tick infestation, and that is all it does mean. If we could free Florida from ticks, we would start up practically in that country a new industry. While there are men there who have made money in the cattle business, they have made it at random, owning cattle by the thousands and not knowing much about it, and never seeing them except when they are driven up to be sold. But those people are few and far between. We want it so that everybody can raise cattle in that State profitably, but we cannot do it so long as this tick is there to put a damper on it.

The best way to do is to form in every county cattle improvement clubs—not bringing the tick to the surface as being the one object for its existence there—clubs that are called "cattle improvement clubs," and having tick eradication as one of the things for which the club would work. They would meet annually at Jacksonville, or some other place, having a delegate from each one of the counties, and in that way we expect to carry on the educational side of the work. We are not expecting to jump in and eradicate in any great amount of territory in Florida suddenly. It has got to be an educational campaign. We have got to provide for this work men who can reach all the small owners of cattle, because in a country of that kind they live far away from railroads and are hard to reach, and we have to pick out a certain class of men who have influence with that particular kind of person. I have an idea that our State would claim the distinction of being the point at which the cattle tick first arrived in America. St. Augustine being the oldest settlement, it may be that we are responsible in a way.

The tick can be eradicated or destroyed and the Texas fever can be stamped out, and it is the only one that can be stamped out in that way. The peculiar life history of the tick makes it possible, and if you eradicate the life principle of the tick you then exterminate it. It is the only insect in the world that can be exterminated, in my opinion. It may be interesting to know, with regard to this cattle tick, that the discovery of the tick carrying the germ of the Texas fever was the first instance in the history of medicine, where it was shown that diseases are insect-borne. Since that time we have discovered that malaria is carried by mosquitoes, and that yellow fever is carried by mosquitoes. This particular tick is the only one that carries this particular parasite that causes disease in cattle greatly resembling malaria in man.

CONSTRUCTION OF A DIPPING VAT.

Directions for Constructing a Vat and Dipping Cattle to Destroy Ticks.

(From Circular No. 183, Bureau of Animal Industry. By Graybill and Ellenberger. Reprinted from Report of Florida State Board of Health on Cattle Tick Eradication.)

ARSENICAL DIPS.

Arsenical dips as agents for destroying cattle ticks have come into much favor during the past few years. This has been due to their efficacy, cheapness, the ease with which they are prepared, and the comparatively slight injury they cause to cattle when properly prepared and used. Homemade dips are the ones most commonly used and are quite satisfactory in every way when ordinary care is used in their preparation. Recently there has been placed on the market a proprietary concentrated arsenical dip which has given good results. This dip is prepared for use by diluting it with cold water in the proportions of 1 to 100. The only advantage in such a dip is that comparatively little time is required in preparing the bath, but this advantage is largely counterbalanced by the fact that it is more expensive than a homemade dip.

PREPARATION AND USE OF ARSENICAL DIPS.

The formula most commonly used in making an arsenical dip is the following:

Sodium carbonate (sal soda)	pounds	24
Arsenic trioxid (white arsenis)	do	8
Pine tar	gallon	1

Water sufficient to make 500 gallons.

If for any reason a stronger dip is desired, 25 pounds of sodium carbonate and 10 pounds of arsenic trioxid may be used i nplace of the amounts given in the above formula. The stronger dip is required by the regulations of the Bureau of Animal Industry in the dipping of cattle which are to enter interstate commerce from quarantined areas, but for ordinary eradication work when immediate removal of the cattle to tick-free areas is not contemplated it will probably be best to use the weaker solution, and this is especially true during hot weather and when the animals are to be treated every two weeks.

In preparing the dip a large caldron or galvanized tank is required for heating the water in which to dissolve the chemicals. Thirty or forty gallons of water should be placed in the caldron or tank and brought to a boil. The amount of sodium carbonate indicated in the formula is then added and dissolved by stirring. When this is accomplished, the required amount of arsenic is added and dissolved in a similar manner. The fire is then drawn, and the solution is permitted to cool to 140 degrees F., or this process may be hastened by the addition of cold water. The pine tar is then added slowly in a thin stream and thoroughly mixed with the solution by constant stirring. This solution is diluted to 500 gallons before using.

If a larger caldron or tank is available for preparing the dip, a greater quantity of solution may be prepared at one time, always, of course, in the same proportion as the above. In this way the time required in preparing the amount of solution necessary to fill a vat is reduced considerably. In case it is necessary to use a smaller container, say of about the capacity of 25 gallons, only half the amount of solution indicated should be prepared at one time, the quantities of ingredients used being half those in the formula. This will, however, require so much time in preparing the amount of solution necessary to fill a vat that when possible it is advisable to provide a larger vessel for dissolving the chemicals.

The caldron or tank and utensils used in preparing the dip should be kept free from grease or oil, as small quantities of these may envelope particles of arsenic and prevent or hinder the solution of the arsenic. It should also be borne in mind that when hard water is used in the preparation of the dip the dissolving of the sodium carbonate (sal soda) in the boiling water results in the formation of a fine white or gray insoluble powder or precipitate of lime salts which may be taken for undissolved arsenic, and thus lead to the belief that all the arsenic has not gone into solution.

The arsenical solution may be poured into the vat as rapidly as it is prepared until the amount required to fill the vat, when properly diluted, has been made. The most convenient way of diluting the solution is to run the water into the vat through a hose or pipe. The capacity of the vat at the depth to which it is necessary to fill it for dipping, if not known, should be calculated, and for future convenience the water line should be plainly marked at some point on the wall of the vat. After the exact amount of solution necessary to furnish diluted dip to fill the vat has been prepared and placed in the vat all that is necessary is to allow water to flow into the vat until the surface of the dip reaches the mark made on the side of the vat. For example, if the capacity of the vat is 2,000 gallons, then four times the amount of solution necessary to make 500 gallons of dip should be prepared, placed in the vat, and the latter filled with water to the 2,000-gallon mark. In case the vat leaks it will be necessary to modify the above procedure by placing the concentrated arsenical solution necessary to fill the vat in barrels and only placing it in the vat when the latter is nearly filled with water, being careful to note, however, that there is ample capacity remaining so that when the solution in the barrel is added the dip surface will not be above the mark to which the vat is to be filled.

The capacity of the vat planned in this circular at a depth of 5 feet 3 inches is 1,470 gallons. In order to fill it to that depth with dip it will be necessary to prepare two batches of concentrated dip each containing the ingredients necessary for making 500 gallons of diluted dip and a third batch containing 7 pounds 9 ounces of arsenic and 22 pounds 3 ounces of sodium carbonate in case 8 pounds of arsenic are being used to the 500 gallons, or 9 pounds 7 ounces of arsenic and 22 pounds 8 ounces of sodium carbonate in case 10 pounds of arsenic are being used to the 500 gallons.

When for any reason it is not convenient to follow the above method of diluting the dip, a stock solution may be prepared in which the quantity of ingredients for 500 gallons of diluted dip are dissolved in 50 gallons of water. Nine parts of water to 1 part of this stock solution will then give the proper dilution. The stock solution is found very convenient for replenishing the dip in a vat when it has become too low for dipping. A stock solution should not be made in more concentrated form than that given (50 gallons of stock for 500 gallons of dip), as the pine tar does not remain properly mixed when the solution is too concentrated.

The arsenical dip may be left in the vat and used repeatedly, replenishing it with the proper quantities of water and stock solution when necessary. When, however, the dip becomes filthy through the addition of manure and dirt carried in by the cattle, the vat should be emptied, cleaned, and filled with fresh fluid. The frequency with which this should be done must be left to the owner, as the condition of the dip at any period after it has been made depends on a variety of conditions, such as the number of cattle dipped, the frequency of the dippings, etc. Even though the dip may not become very filthy, its efficiency decreases somewhat on standing, owing to gradual oxidation of the arsenic. It is, therefore, advisable to recharge the vat if the dip is more than a month or six weeks old, irrespective of its condition as to cleanliness.

At the conclusion of each dipping it is well to mark the position of the surface of the dip on the side of the vat in order to determine at the next dipping whether there has been a change in the level of the dip. If the surface of the dip has fallen, and it is known that the vat does not leak, there has been a loss of water by evaporation and consequently an increase in the strength of the dip. In order to bring the dip down to its former strength water should be run into the vat util the dip surface reaches the mark made at the last dipping. If the fall has been due to the vat leaking, the strength of the dip has not been altered and consequently water alone should not be added. If the dip surface has been raised by rain the amount of water added in this way should be determined by calculation, and for every nine gallons of water one gallon of the stock solution previously mentioned should be used.

When not in use the vat should be tightly covered with a waterproof cover to prevent evaporation on the one hand and further dilution by rain on the other hand. Securely coverig the vat when not in use also lessens the risk of accidental poisoning of stock and human beings.

PRECAUTIONS IN THE USE OF ARSENIC.

On account of the fact that arsenic is a dangerous poison, great care must be observed in making and using the arsenical dip. From the time the arsenic is procured from the druggist until the last particle of unused residue is properly disposed of, the most scrupulous care should be taken in handling it. Guessing at weights or measures or carelessness in any particular is liable to result in great damage, and not only may valuable live stock be destroyed, but human beings may lose their lives as well.

Persons using the dip should bear in mind the possibility of absorbing arsenic through cuts, scratches, or abrasions of the skin and also by inhalations of vapors from the boiler in which the dip is prepared. It should be remembered that the absorption of even very small quantities of arsenic, if repeated from day to day, is liable ultimately to result in arsenical poisoning.

Cattle should always be watered a short time before they are dipped. After they emerge from the vat they should be kept on a draining floor until the dip ceases to run from their bodies; then they should be placed in a yard free of vegetation until they are entirely dry. If the cattle are allowed to drain in places where pools of dip collect, from which they may drink, or are turned at once on the pasture, where the dip will run from their bodies on the grass and other vegetation. serious losses are liable to result. Crowding the animals before they are dry should be avoided, and they should not be driven any considerable distance within a week after dipping, especially in hot weather. If many repeated treatments are given the cattle should not be treated oftener than every two weeks.

In addition to properly protecting vats containing arsenical dip when not in use, another precaution must be observed when vats are to be emptied for cleaning. The dip should not be poured or allowed to flow on land and vegetation to which cattle or other animals have access. The best plan is to run the dip into a pit properly protected by fences, and the dip should not be deposited where it may be carried by seepage into wells or springs which supply water used on the farm.

The above precautions are given to inform persons not familiar with arsenic of its poisonous nature and the care that should be observed in its use, and to stimulate a proper care in those who know its poisonous nature and yet might be careless or who may not know all the precautions that should be observed. Unfortunately, however, the giving and emphasizing of such precautions have had the effect of arousing unwarranted fear of arsenic on the part of some stockmen and farmers, and have caused them, for a time at least, to refuse to undertake its use in treating for cattle ticks. For the benefit of those who may unduly fear arsenic, because of what has been said, it should be stated that where reasonable care is observed in following the precautions given there is little danger of losses occurring. The arsenical dip has been extensively used during the past five years in tick-eradication work in the tick-infested area, and considering the number of cattle that have been dipped the losses have been very small. Some of these have been definitely traced to carelessness, and there is little doubt that if it had been possible to investigate all losses the majority of them would have been found to be due to this cause.

TO RENDER HARMLESS THE ARSENIC IN THE DIPPING SOLUTION BEFORE EMPTYING THE VAT FOR CLEANING.

Measure approximately the number of gallons of solution left in the vat, and for each 100 gallons add six pounds of slacked lime. Mix the whole thoroughly and allow it to stand for a couple of hours. Then, for each 100 gallons in the vat, take six pounds of ordinary commercial copperas (sulphate of iron) and dissolve it in hot water. Pour the hot copperas solution into the vat, stir it up well and allow the whole to stand for ten or twelve hours. The arsenic unites with the copperas (iron) and will have fallen to the bottom of the vat as an insoluble, harmless precipitate or sediment. The clear fluid on top will contain no arsenic, and may be pumped, or syphoned out on to the ground.

The sediment at the bottom of the vat may be taken out and buried, if so desired, although it too will be nonpoisonous.

METHOD OF DIPPING.

The procedure to be followed in dipping animals on a farm depends on the end that is sought in undertaking the treatment. If it is simply desired to reduce and keep down the infestation of ticks on a farm, it will only be necessary for the owner to keep his animals under observation and dip them when, according to his judgment, treatment is necessary to keep the ticks under control. Such a procedure may be followed where the regular tick eradication is not under way; that is, in instances in which it is not yet practicable nor expedient to rid farms completely of ticks.

If, however, it is desired to rid the farm completely of itcks—and this should be the purpose in every case in which it is practicable and expedient—it will be necessary to dip all cattle, and also any horses, mules, or asses that may harbor the cattle tick, at regular intervals until all ticks have disappeared from the farm. The purpose of such dipping is to prevent as nearly as possible any engorged females dropping to the pasture and there laying eggs which in time may develop into young ticks. In order to do this it is necessary to dip at intervals short enough so that no tick after getting on the cattle will have time to mature and drop off before the next dipping. An interval between dippings of two weeks is considered most satisfactory. This interval, however, may be increased somewhat if necessary, but it should never be greater than three weeks.

In freeing a farm of ticks the dipping should not be discontinued until it has been determined with certainty that the cattle and premises are free of ticks. It should be borne in mind that it is almost impossible to determine by a few inspections, even if carried out with great care, that animals are free from ticks. If the treatment is discontinued and a few unobserved ticks are still on the animals, these, on maturing and dropping, are likely to give rise to a new brood of young ticks. Moreover, even if the cattle are actually free from ticks, the fact should not be lost sight of that there may still be engorged females, eggs and seed ticks on the premises. This is most likely to be the case during the colder part of the year when the development of the tick on the ground progresses slowly and also when any seed ticks that may be present are likely to be slow in reaching the cattle because of inactivity resulting from the low temperature.

TO RE-ENFORCE THE ARSENICAL DIPPING SOLUTION IN A VAT, FROM TIME TO TIME WHEN IN USE.

Measure the water poured in to fill up the vat. Then figure the amounts of the materials necessary for that quantity of water. These will be found to be about as follows:

	Arsenic lbs.	Soda lbs.	Pine Tar.
For 100 gallons....	2	5	3 pints
For 200 gallons....	4	10	7 pints
For 300 gallons....	6	15	9 pints
For 400 gallons....	8	20	14 pints
For 500 gallons....	10	25	16 pints or 2 gallons

The concentrated solution for the smaller quantities should be prepared in the same manner as when filling the vat the first time, using the proportionate quantities of water.

Specifications for the Construction of a Concrete Cattle-Dipping Vat.

SITE.

The site selected for the location of the vat should be dry and of sufficient size to admit of the construction of the chute, the dripping pen, and at least two additional pens—one for holding the cattle prior to dipping and the other for retaining them after dipping until sufficiently dried.

EXCAVATION.

The excavation should be made 1 foot wider and 1 foot longer than the inside dimensions of the vat and should conform to its shape. The inside dimensions of the vat are shown on the drawings (fig. I) and are as follows: Lenth at top of vat, 26 feet; bottom, 12 feet. Width at top, 3 feet; at bottom, 1½ feet. Depth, 6½ feet.

The sides and bottom of the excavation should be firm and solid, as they are to serve for the outside forms in casting the concrete. If it is necessary to do any filling in order to conform to the shape of the vat, the filling should be puddled and thoroughly rammed until solid, because the stability of the concrete depends on the foundation.

FORMS.

The wooden forms should be constructed of 1-inch boards and 2 x 4-inch braces, the boards being nailed to the outside face of the braces as shown in the drawings. The sides and end walls should be built 8 inches higher than the surface of the ground, which should be level.

CONCRETE.

The concrete should be made of 1 part cement, by measure, 2½ parts of sand, and 5 parts of broken rock or gravel. The cement should be of a standard brand of Portland, the sand clean and coarse, and the broken rock from about ¼-inch pieces to not larger than will pass in every direction througr a 1-inch ring.

Mixing.—The mixing should be done on a tight wooden platform or in a tight box. The sand and stone should be measued in a bottomless box, 2½ feet long by 2 feet wide by 1 foot deep, having a capacity of 5 cubic feet. A convenient size of batch to mix is one consisting of 2 bags cement, 1 measure (5 cubic feet) of sand, and 2 measures (10 cubic feet) of stone.

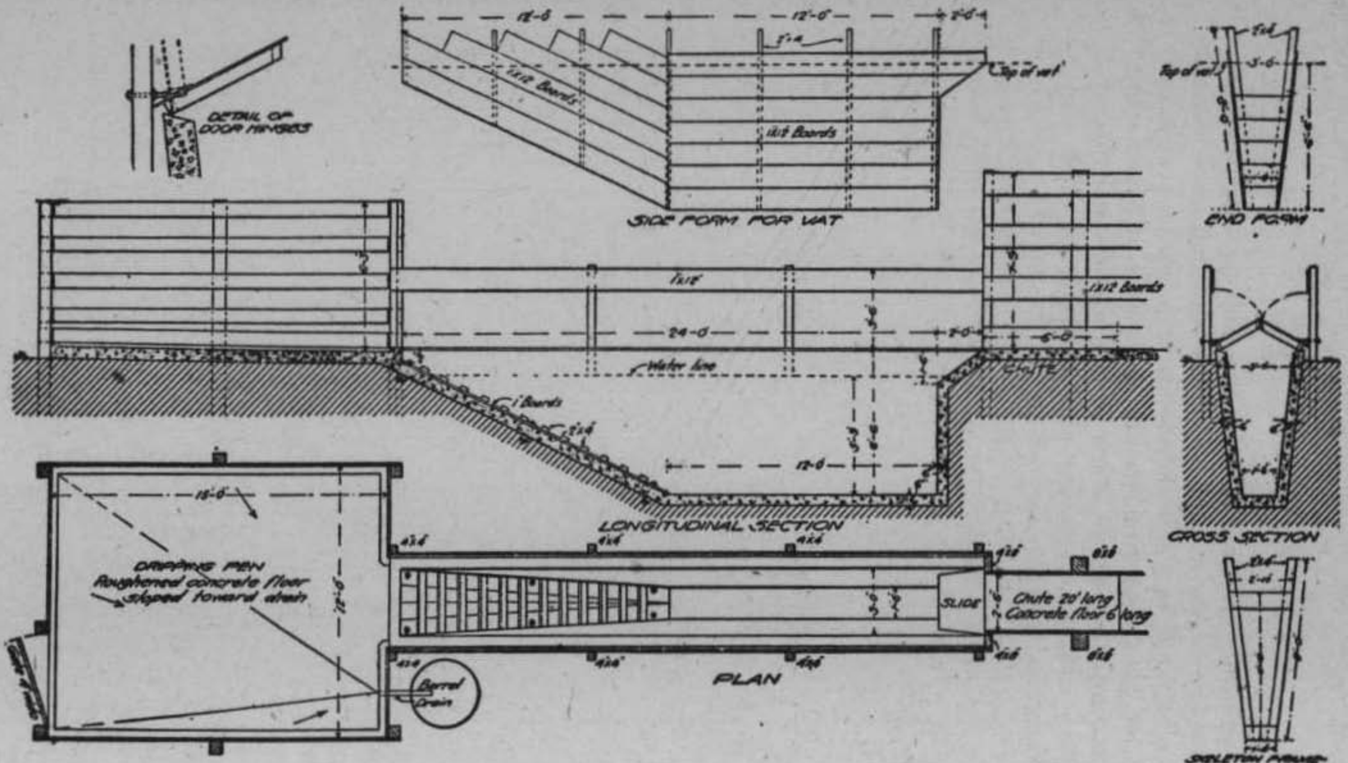


Fig. 1.—Plans for a concrete dipping vat.

The sand is measured out first and the cement emptied on top, after which the two materials are thoroughly mixed together, dry. In the meantime the stone may be measured out and thoroughly drenched with water. The cement-sand mixture is mixed with water and the resulting mortar then combined with the stone. The stone should be shoveled on the mortar, which has been previously spread out in a thin layer. Mixing should continue until the stone is thoroughly coated with mortar, more water being added during the mixing process if necessary.

Laying.—Before laying the concrete the molds should be set and thoroughly braced into place. The side forms may be suspended in the excavation with their lower edges 6 inches from the bottom by means of crosspieces nailed to the uprights and of sufficient length to rest on supports located several feet from the edges of the excavation. The concrete for the bottom and incline is deposited first, this mixture being of a consistency that water will flush to the surface on ramming. The mixtures for the sides and end should be very wet and should be thoroughly puddled into place. The consistency of the concrete for the side walls should be such that it will run off the shovel unless handled quickly.

The laying of the concrete should be done, if possible, in one operation, in order that there may be no joints between the new and old work. If it becomes necessary to lay the concrete on two or more days the surface on which the new concrete is to be deposited should be washed thoroughly clean and coated with grout of pure Portland cement and water mixed to the consistency of cream. The new concrete should be placed before the grout has set. Extreme care should be taken to prevent dirt from falling in on top of the deposited concrete.

The form should not be removed until the concrete is set, which in moderate weather will have taken place in about 24 hours. In damp, cold weather at least 48 hours should be allowed before removing the forms. It will be advisable, especially in water-soaked ground, to allow the forms to remain in place for one week before removal.

Finishing Coat.—Before applying the surface coat dampen the walls and floor thoroughly. Cover the entire exposed surface of the floor and walls with a coating one-half inch thick of cement mortar composed of Portland cement 1 part, sand 2 parts. Coating to be floated and troweled to a smooth finish.

WATERPROOFING.

If the earth around the vat is thoroughly drained the vat may be waterproofed by painting the surface coat, but painting the surface will not give satisfactory results if there is ground water to seep in. The paint may be good hot pine tar, or gas-house tar cut with naphtha or gasoline and applied with a brush, or after the mortar coat has hardened the inside of the vat may be painted with an oil-cement paint made as follows:* Mix enough water with Portland cement to make a fairly stiff paste; add to this 5 per cent of heavy petroleum residuum oil based on the weight of the cement, and mix thoroughly until the oil entirely disappears, then add more water and stir until a paint of the consistency of cream is formed. This paint should be applied with a brush and should be well rubbed into the surface. Should the mortar coat be omitted the paint coat should be applied directly to the surface of the concrete.

EXIT INCLINE.

As the exit incline is to have a false wooden floor, it will be necessary to embed iron bolts in the concrete, to which the wooden floor may be fastened. Before the concrete incline is laid embed in the dirt three pieces of 2 by 4-inch scantling, placed at the top, center, and bottom of the incline. The bolts should extend through these pieces and should be placed with the head next to the dirt. The bolts should be long enough to extend through the concrete and the inch boards of the floor, so that the wooden floor may be securely fastened.

---

*These directions for the oil-cement paint are furnished by the Office of Public Roads of the United States Department of Agriculture.

SLIDE.

Cover the slide with a sheet of boiler iron properly fastened to the cement.

COVER.

The cover of the vat consists of two leaves hinged on posts set 3 feet in the ground along each side of the vat. The leaves are two feet 6 inches wide, and when open rest against the upper part of the posts to which they are hinged and serve as splash boards. The details of the hinge* used and the method of setting it are shown in the drawings. When the leaves are open their lower edges are just above the top of the side walls, which are given a slope inward for the purpose of conducting the dip running from the splash boards back into the vat. Removable doors should be constructed to close the triangular openings left at the ends of the vat when the cover is closed. The hinges may be made by a blacksmith.

DRIPPING PEN.

Construct a dripping pen about 12 by 15 feet at the head of the exit incline. The floor should be of concrete prepared as previously described for the vat and laid in a

*This hinge and the method of setting it for the cover of a dipping vat have been copied from an article by William Taylor Heslop in the Agricultural Journal of the Union of South Africa, Pretoria, Vol. 1, No. 1, 1911, Pp. 38-43.

similar manner. The floor should be pitched toward a corner of the pen, where a pipe should be laid in the floor to carry the drippings into a barrel sunk in the ground. The drippings thus caught may be returned to the vat after settling. The floor should be roughened to prevent the cattle from slipping.

CHUTE.

The chute leading to the vat should be built 30 inches wide and 20 feet long, and the receiving and retaining pens should be of a size to take care of the animals to be dipped.

BILL OF MATERIALS FOR VAT, DRIPPING PEN, AND CHUTE.

LUMBER FOR FORMS.

8 pieces 1 by 12 inches by 14 feet long.
18 pieces 1 by 12 inches by 12 feet long.
2 pieces 1 by 12 inches by 9 feet long.
2 pieces 1 by 12 inches by 6 feet long.
2 pieces 1 by 12 inches by 4 feet long.

8 pieces 2 by 4 inches by 8 feet long.
2 pieces 2 by 4 inches by 7 feet long.
2 pieces 2 by 4 inches by 6 feet long.
2 pieces 2 by 4 inches by 4 feet long.
2 pieces 2 by 4 inches by 2 feet long.
7 pieces 1 by 6 inches by 12 feet long for crosspieces for inside of forms.

LUMBER FOR DRIPPING PEN.

7 pieces 6 by 6 inches by 10 feet long for posts.
10 pieces 1 by 8 inches by 16 feet long for rails of pen.
5 pieces 1 by 8 inches by 12 feet long for side rails of pen.
5 pieces 1 by 8 inches by 8 feet long for side rails of pen.

The covers can be made from the lumber used in making the forms, and the lumber for the exit incline can be gotten in the same way.

The 4 x 4-inch posts to which the cover is hinged may be made from 2 x 4 stuff by spiking together.

End form to be made solid.

HARDWARE AND IRON WORK.

6 bolts, ½ by 10 inches, with nuts and washers, for false floor of incline.
1 sheet of ¼-inch boiler iron cut to shape of slide; plate bored and countersunk for four screws.
4 pairs hinges for covers.
3 heavy T hinges and screws for gate of dripping pen.
1 heavy iron bolt to fasten gate.

CONCRETE.

VATS.

Cement, 10½ barrels (42 bags).
Sand, 3¾ cubic yards.
Stone, 6¼ cubic yards.

DRIPPING PEN AND CHUTE.

Cement, 5½ barrels (22 bags).
Sand, 1¾ cubic yards.
Stone, 3½ cubic yards.

A 26-foot vat has been used extensively for eradication purposes with satisfactory results. However, if it is desired to lengthen the body of the vat on account of large numbers of cattle to be treated, or to make it conform to the bureau's requirements for the treatment of cattle for movement as non-infectious, there should be added to the amount of concrete material for each lineal or running foot, cement, 0.37 barrel; sand 0.12 yard; stone, 0.24 yard.

By some a dripping chute is regarded more satisfactory than a dripping pen. One of the advantages that it has is that the cattle are held in line in the order in which they have been dipped, thus making it possible to remove one or more of them at a time as soon as they have drained sufficiently, in order to make room for others. In using the dripping pen this is not practicable and it is necessary to wait until the last animal dipped has drained sufficiently and then remove them all together.

In case it is desired to construct a dripping chute it should be located at the head of the exit incline in line with the vat. It should be about 36 inches wide. The length will depend on the number of cattle it is desired to accommodate at one time, it being necessary to allow 4 to 5 feet for each. A length of from 20 to 40 feet is considered a convenient size for small herds. The floor should be made of concrete and sloped toward the vat. The dip should not be permitted to run directly into the vat, but should be collected in a barrel to settle, as shown in the case of the dripping pen. The floor at the sides should be raised about 2 inches in the form of a curb to keep the dip from running off.

PRICES FOR INGREDIENTS OF DIP.

The following companies quote prices on arsenic, sal-soda and pine tar, used in the preparation of the standard arsenic solution for dipping and spraying cattle to destroy ticks; F. O. B. point of shipment:

Gulf Pine Product Company, J. T. Myers, President, Waycross, Ga., quote:

Pine tar, barrel lots, 45 to 50 gallons in barrel, $5.00 per barrel.

Columbia Drug Company, Savannah, Ga., quote: Arsenic, 7 and 8 cents per pound; sal-soda from 1 to 1¼ cents per pound, depending on quality. Pine tar quoted on application, dependig on quantity.

The Groover-Stewart Drug Company, Jacksonville, Fla., quote: Arsenic trioxide in 71-lb. lots (enough for three fillings of vat), 8 cents per pound; sal-soda in 211-lb. lots (for three vats) at 2 cents per pound.

Following is the quotation from the Tampa Drug Co: "Arsenic, in kegs, 5½c; Sal-Soda, per bbl., 1¼c; Pine Tar, bbls., per gal., 35c, f. o. b. New York." Pine tar has been quoted locally (Tampa) at 27c.

Following is the quotation from the Phoenix Supply Co., of Atlanta, Ga.: "Sal Soda in bbls. at 1c per pound f. o. b. Atlanta."

THE EVERGLADES

By F. C. Elliot, *Chief Drainage Engineer.*

Introduction.

This article is written for those who may be interested in the drainage of the Everglades of Florida. In the following pages is briefly set forth some of the most important facts, conditions and conclusions relative to the reclamation of Florida's great inundated prairie, destined in the near future to become one of the most productive agricultural regions in the world.

Much of the information here offered is in answer to questions which have been selected from hundreds of letters written by parties making inquiries relative to the Everglades. Other information is added in order to, in some degree, complete and carry out a logical arrangement and treatment of the subject.

In the caldron which boils eternally over the political fires every subject, sooner or later, comes to the top, and so the Everglades Drainage Project did not take shape purely as an engineering undertaking, but had its origin in the form of a political plank in a party platform, and was in that way brought to the notice of the public. In the campaign of 1905, the successful candidate for Governor was elected on a platform pledged to the drainage of the Everglades. And since that time, notwithstanding the many obstacles necessary to be overcome, reclamation by drainage has, on its own merits, gradually become one of the fixed policies of the State.

It is hoped that these pages may, to those who read them, serve to set forth in true light and afford to some extent, at least, a correct idea of the subject under discussion. From the language used, technical terms have been eliminated, as far as possible.

LOCATION, FORMATION AND DRAINAGE.

The Everglades are situated in the southeastern portion of the Florida Peninsula, below the 27th parallel. Generally speaking, they lie south of Lake Okeechobee, have a width of about forty-five miles and a length of nearly one hundred miles, with an area of 2,860,000 acres. The Everglades Drainage District includes the Everglades proper and contiguous lands embraced in the same drainage area or basin. The District has an area of 4,300,000 acres. The surface of the Glades is twenty-one feet above sea level, just sonth of Lake Okeechobee, and slopes gently toward the south at the rate of about three inches per mile. West of Miami the surface of the glades is from six to eight feet above sea level. The glades are in no way a swamp. They present the appearance of a broad, level, grass-covered prairie. They are covered almost uniformly with a growth of sawgrass. There are practically no trees in the Everglades. Clumps of small bushes are found near the eastern edge and in the southern portion. Along the eastern border, where the Glades merge into the higher land, considerable growth of cypress occurs, usually of small size, though in some places fine timber is found. On the western edge of the glades occur fine strips of prairie, now utilized as cattle ranges. A heavy growth of custard apple fringes the southern shores of Lake Okeechobee. At their southern extremity, the glades merge almost imperceptibly into the tide water of the sea.

The soil of the Everglades consists chiefly of muck, varying in depth from ten to twelve feet just south of the lake, to three or four feet in the southern portion of the glades. The muck is reduced to a thin layer at the edge of the glades, finally giving way to the sand of the surrounding country. This muck soil was formed by the dying, falling and decaying of each successive growth of vegetation. In their normally inundated condition the Everglades were covered by from one inch to one and one half feet of water.

LAKE OKEECHOBEE, UNCONTROLLED, THE GREATEST MENACE TO THE UNDRAINED GLADES, BUT WHEN BROUGHT UNDER CONTROL WILL BECOME THE MOST VALUABLE ASSET WHICH THE RECLAIMED GLADES WILL POSSESS.

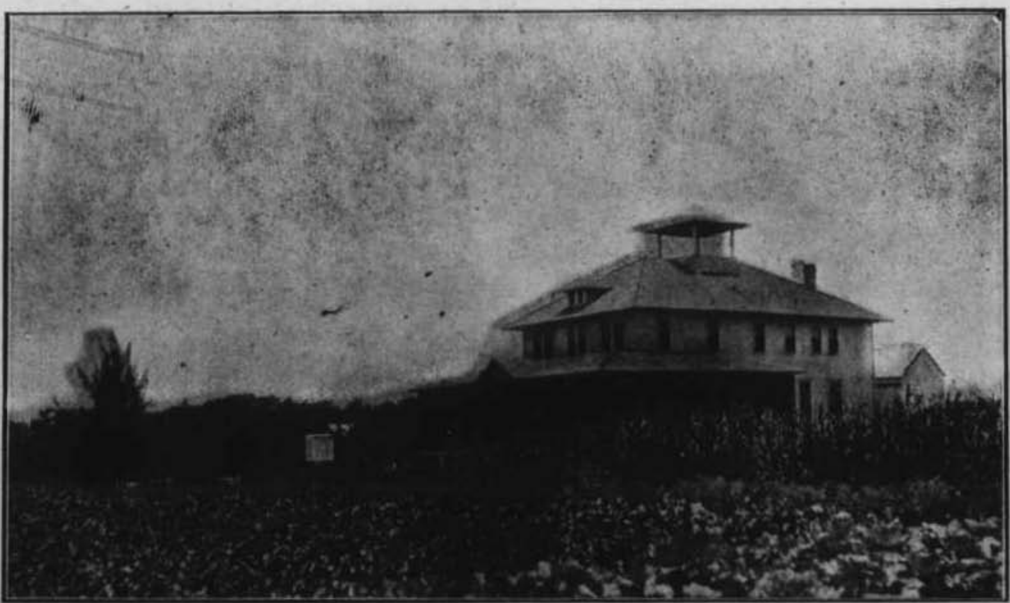
The vegetation in the Upper Glades is much denser, as a general rule, than in the Lower, or Southern Glades, and as the muck soil is produced by fallen vegetation, it would naturally be supposed that the muck would be deeper over the areas of densest growth. Such is, in fact, the case, the muck being ten to twelve feet thick near Lake Okeechobee, where the vegetable growth is heaviest, and thinner, as a rule, in the Southern Glades, where vegetation is and has been less dense. Of course there are other agencies which also affected the thickness of the muck, but the one above referred to is the one most important under normal glade conditions.

A log thoroughly and continuously immersed in fresh water will be preserved for ages. Timbers have been removed from fresh water that are known to have been submerged for hundreds of years and found to be in a fair state of preservation. And so this accumulation of muck has been made possible by the preserving action of the water which covered it continually and prevented thorough decomposition which would have occurred had the ground been much exposed to the air.

Soil, generally speaking, is formed by the decomposition of the rocks of the surrounding country. Often the soil is transported far from the place where it was originally formed. As a general rule, soil is the product of the destructive agencies of nature. Not so with the soil of the Everglades, which is an exception to the general rule. Everglade soil is a product of constructive agencies. It has built itself up by its own growth of vegetation, and has actually created itself, to a very large extent at least, by this constructive process.

The soil is underlaid by a bed of limestone, chiefly oolitic in character, rather soft, but very jagged and uneven along the eastern edge and in the southern portion of the glades. This gives place to a hard, smooth slab limestone further toward the interior of the glades. This great bed of limestone forms a broad, shallow, flat-bottomed trough or flat basin, slightly turned up at the outer edges, these outer edges forming what is commonly called the rock rim of the Everglades. Down through the interior of this broad, shallow, flat-bottomed rock trough, from north to south, the slope or dip which is toward the south is very slight, so slight that for all practical purposes this great limestone bed inside of the outer edges of the same may be considered as an immense level floor. More especially is this the case in the upper half of the glades. This condition exists from the south shore of Lake Okeechobee eastward and westward to the edge of the glades, and southward to a line drawn generally westward from Fort Lauderdale. Westward from Fort Lauderdale, the flat slab rock formation, common to the upper Glades, begins to change and is replaced toward the south by the softer limestone. The rock floor maintains its generally level character, but is full of small pot holes, with sharp, jagged edges, very much like an immense honey comb. This characteristic extends all the way from the line west of Ft. Lauderdale to the southern extremity of the glades, gradually dipping toward the sea until tidewater is reached in the proximity of the Thousand Islands and White Water Bay.

On this great limestone floor lies the muck soil of the Everglades, thicker at Lake Okeechobee, thinner at the edges of the glades and toward the south. The soil resting on this level rock floor, being thick at the lake and thin toward the south, gives to the surface of the glades that gradual slope which permits the waters overflowing from Lake Okeechobee and the waters from natural rainfall on the glades, to gradually find their way, seeping through soil and meandering through sawgrass southward to the sea. But by far the greater portion of the water on the glades passes into the air by evaporation and is in that way disposed of. At a few places along the eastern edge of the Glades, notably at New River and Miami River, the water broke through the rock rim of the glades and



SIGNS OF CIVILIZATION ARE PRESSING TOWARD THE GLADES. THE HOTEL ON THE SOUTH SHORE OF LAKE OKEECHOBEE, WITH A PORTION OF THE GARDENS AROUND IT.

made its way directly to the sea. Other portions of this water from the glades makes its way slowly and tediously through the entire length of the glades to the sea at the southern extremity of the peninsula.

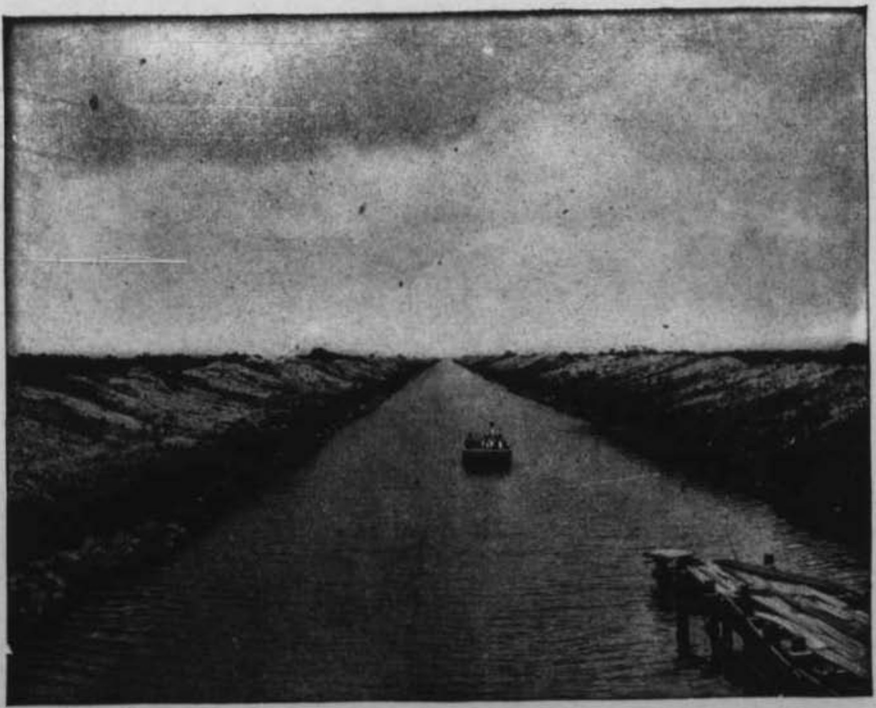
Lake Okeechobee, the second largest body of fresh water wholly within the United States, is nearly circular in form, about thirty-two miles in diameter, and has an average depth of about fifteen feet. Its normal elevation is twenty and one-half feet above the level of the sea, and through the varying seasons of the year fluctuates through a vertical range of about two and one-half feet between high water in the rainy season and low water in the dry season. The banks of the lake on the west and south are low and marshy. On the east a low sand bank confines its waters. This lake is the catch basin receiving the run-off from a watershed to the northward about seven times its own size, finding inlet to the lake by numerous creeks and rivers, the principal of which, and by far the most important, being the Kissimmee River. During the rainy season an enormous quantity of water is discharged from this watershed into the lake, and continues in less amount during other seasons. Formerly, in its natural condition, when the lake became filled to overflowing, it discharged its water over the low shores on the south, inundating the Everglades, adding its quota of water to that of local precipitation on the glades, which escaped very slowly on account of the insignificant slope, lack of channels, and the obstruction to flow offered by the dense growth of saw grass.

The waters which inundate the Everglades are of two kinds: First, waters of overflow from Lake Okeechobee; second, waters of local rainfall on the glades. If Lake Okeechobee be lowered so that it cannot overflow its banks one portion of the water which now inundates the Glades will be removed. If the excess rainfall on the Glades be carried off, the other portion of the water which floods this area would be removed.

The plan for drainage proposes two general things: First, to construct a large canal by the shortest feasible route from Lake Okeechobee to the Atlantic, for the purpose of lowering the lake about four (4) feet and bringing it under control; second, to build drainage canals through the Glades, connecting with the sea, for the purpose of carrying off the excess local rainfall. The lake control canal will be approximately 25 miles long, 150 to 200 feet wide, and will have a 10 to 12 feet depth of flow. The Everglades drainage canals proper will be approximately sixty feet wide and ten feet deep. The accompanying map shows the general arrangement of main canals and the suggested plan for the major system.

The conditions existing in the Everglades are most favorable for economical drainage by means of canals operating under gravity alone. The elevation of the surface above sea level and the distance from the sea are such that the canals which will be constructed will have a sufficient grade to give a good current for carrying off the water, a mile to two miles per hour, without making excessive cuts. The slope of the land surface to the southward, about three inches per mile, is nearly the slope of the bottom of the canals which run southward from Lake Okeechobee, so that the depth of cut for the canals through the Glades from north to south is almost the same along the entire length of the canals. This is of great value in the economical construction of the main canals, which traverse nearly the entire glades from north to south. Neither is the slope so steep that currents with dangerous velocities will result. Also the water stage in the canals can be controlled by a few simple and economical locks and dams, which would not be the case if the Glades had steeper or uneven slopes, making necessary great lifts in the canal locks and great numbers of dams and controlling works.

In order to make the drainage of the Everglades thoroughly effective, it will be necessary to construct a system



ON ONE OF THE CANALS A FEW MILES FROM THE LOWER END, NEAR THE EASTERN EDGE OF THE EVERGLADES.

of lateral canals and farm drainage ditches which will have for their object the transportation of the excess rainfall to the main canals. These laterals may also be used to draw off the water from the main canals if it should be required for purposes of irrigation. The main canals have been favorably located for an economical arrangement of lateral drains, and providing these will be a simple matter when the main canals shall be ready to receive them. The lands bordering Lake Okeechobee will be drained into the lake as it is lowered.

Mention has been made of controlling works. These controlling works are intended primarily to conserve the waters of the canals and lake for navigation and irrigation, but they will also be advantageous for protective purposes against overflow, and their location and arrangement for this service is also given due consideration. It is proposed to build one of these structures, consisting of a lock and wing dam, with spill-ways or sluice gates, near the head of each canal, at a distance of six or eight miles from Lake Okeechobee, and others at proper intervals through the canals. By their use, it will be possible to control the water stage in the lake and regulate the flow in the canals. The controlling works, which will be constructed in the large control canal connecting Lake Okeechobee directly with the sea, will be located near its lower end.

When the Everglades drainage canals proper will be called upon to carry their full capacity of water from local rainfall on the Glades adjacent to them, they will be shut off from Lake Okeechobee by means of the controlling works near the upper ends so that they will not be burdened by water from the lake, and may thus be permitted to operate to their full efficiency for removing local rainfall. During the rainy season, when the lake is receiving large quantities of water, the spillways and gates in the dam of the large control canal will be opened wide, so as to permit the maximum flow of water through the canal, and thus afford relief to the lake. As the rainy season passes and the water is lowered, the gates and spillways will be so adjusted as to regulate the flow of water through them and prevent Lake Okeechobee from becoming so low or shallow as to impair navigation.

Lake Okeechobee is a navigable body of water, held by the United States Government to be under its control and jurisdiction, and so important does it consider the matter of conserving its water and preserving its navigability that the War Department is ever watchful of this great inland waterway. Provision has been made to lower the level of the lake about four feet, or to an elevation of sixteen feet above sea level. This will leave an ample depth for the navigable requirements of the lake, and at the same time furnish a margin through which the waters may safely fluctuate and also prove advantageous as a storage reservoir for holding over water which may be used during the dry season, and as a catch basin for receiving and storing temporarily the waters from excessive rainfall, which frequently occurs in that region.

The principal function of the canals is, of course, drainage, and their arrangement for this purpose is of first and dominating importance. Of importance also, and which has received consideration, is the question of navigability of the canals, in order that they may provide whatever water transportation is incident upon their dimensions. It is expected that the main canals will be navigable at all seasons and afford passage for vessels up to 85 feet in length by 22 feet beam, having a draft of 3 feet. The size of the lock chamber limits the size of the vessels to these dimensions.

The Everglades were a great unsurveyed territory. In the early days the government surveyors detailed for work in this part of Florida did not penetrate the Glades. They confined their operations largely to the dry land and did not contemplate in their work the great, inundated area reported in their field notes as impracticable and impenetrable marsh. In connection with the drainage work a plan of surveys has been inaugurated, to include the Everglades proper. The principal base lines have already been projected, half a million acres have been surveyed into townships and sections, and the task of sub-dividing this vast and hitherto unsurveyed area is now being carried out as rapidly as is warranted, till in time it will be as easy to locate an acre of land in the Everglades as anywhere else in the State.

The great tract of land composing the Southern portion of Florida was, until recently, a valuable but neglected asset in the State's development. In fact, anything to be appreciated must first be known and understood. From the time that these millions of acres of land were granted to the State by Act of Congress of 1850, until the last few years, the region south of Lake Okeechobee, marked "Everglades," had no particular identity in the minds of the public. It had not been penetrated except occasionally by a stray scientist, an adventurous hunter, or a traveler with more curiosity than common, and it had never been surveyed. It was considered much in the same light as the African Jungles were before Livingston and Lord Stanley made their excursions into the interior of those dangerous and obscure regions. There was little or nothing known of its fauna, its flora, or its soil. It was known that the Seminole Indians had their home on the edge of this vast inundated prairie and subsisted by hunting and fishing, but even they could not find a resting place in the interior, owing to inundation and continual overflow. So, from 1850 to 1900, a period of fifty years, this great asset of the State lay almost unexplored, with almost nothing accomplished in the way of practical development.

While thousands swarmed to the Alaskan gold fields and the Klondyke, and the fame of those regions spread the world over; while irrigation projects had taken hold upon the West and theretofore arid lands were made to blossom and bear rich harvests; while dams and dykes and levees were confining waters, developing water power and protecting river valleys from overflow; while splendid canals were being built for navigation, irrigation and drainage in other parts of the world, and stupendous engineering problems were being met and solved by the most scientific minds of the age; Lake Okeechobee, fed by numerous lakes and rivers from the country above and by heavy tropical rainfall, was gorging itself to overflow and discharging its waters unmolested eastward, southward and westward over the millions of acres of muck and sawgrass known as the Everglades, thus concealing and rendering dormant an area as great in promise and probably as great in wealth as any other like area in the world.

From an engineering standpoint, the practicability of draining the Everglades has been amply determined by careful and thorough investigation of the conditions which control and govern the situation. Other undertakings of a similar nature have been successfully accomplished elsewhere, which assist us in forecasting the result. In Louisiana similar lands have been drained which are thirty to forty miles from the sea, with an elevation of only six or eight feet above sea level. The Everglades, thirty or forty miles from the sea, are fifteen to twenty feet above sea level. In Holland, lands have been reclaimed from inundation and are in state of successful cultivation today which are actually below the level of the sea. The Fens of Eastern England, comprising three-fourths of a million acres, were formerly inundated by the high tides of the North Sea. That great area, having an elevation of only four or five feet above sea level, presented a far more difficult problem for its successful reclamation by drainage than do the Everglades of Florida. Yet, that formerly almost valueless waste is today a national asset of great value, dotted with thriving towns and traversed by canals and railroads. The Everglades of Florida, generally speaking, south of Lake Okeechobee, have an elevation of from fifteen to twenty feet above sea level. It does not necessitate great engineering perception to discover the advantage which the above comparison of elevation indicates in favor of the drainage of the Everglades.

Five main drainage canals connecting Lake Okeechobee with tide water and traversing the Glades are under construction. One of these has two branches. Three auxiliary canals have been constructed. The Caloosahatchee Canal is open, connecting Lake Okeechobee with the Gulf, via the Caloosahatchee River. The North New River Canal is open from Ft. Lauderdale to Lake Okeechobee. The Miami Canal and its branch, the South New River Canal, are open from the lake to the Atlantic. None of the above canals are, however, fully completed, and are discharging only a fractional portion of their ultimate capacity. Work on the West Palm Beach Canal was begun in January, 1914; twelve miles of the same are now open. A waterway is open from Ft. Lauderdale on the Atlantic to Ft. Myers on the Gulf, via the North New River Canal, Lake Okeechobee and the Caloosahatchee Canal and river. Two or three convenient and comfortable hotels for the accommodation of guests are located at and near Ritta, near the head of the Miami Canal, on the south shore of Lake Okeechobee. The distance from Ft. Lauderdale to Ritta, via the canal and lake, is sixty-nine miles; and from Ritta to Ft. Myers, via the lake, canal and Caloosahatchee River, is eighty-five miles. Recently the Florida East Coast Railroad completed its branch to Okeechobee, a town on Taylor's Creek, about three miles from the north end of the lake; and a regular train schedule is in operation. From this place the various points on the shore of Lake Okeechobee are accessible.

Contract for the construction of the Lake Okeechobee Control Canal has recently been let to a reliable dredging company. The excavation of this canal will require the removal of approximately twenty million cubic yards of material and will require two and a half years to cut an opening from the lake to tide water, and four years in all for its full completion.

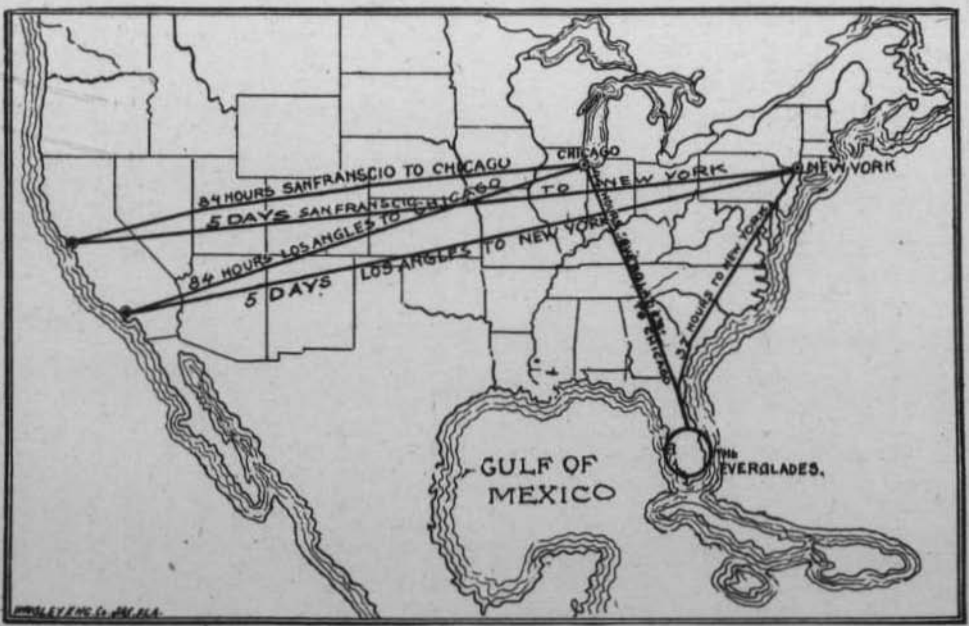
The total length of canals now open in the Everglades is 280 miles. The total excavation amounts to, in round numbers, 21,000,000 cubic yards of earth and rock, at a total cost to date, including all expenses of whatever nature connected with the drainage work, of $2,550,000.00. The canals now contracted for, or under construction, emptying into the sea from the Everglades, if placed side by side, would be equivalent to a river about five hundred feet wide, flowing ten feet deep.

There is no question as to the feasibility of draining the Everglades. This has been passed upon by some of the best engineers in the country. They are all emphatic in their statement of this fact. For further information as to feasibility of drainage, see U. S. Senate Document No. 379, being the report of the Florida Everglades Engineering Commission, composed of Isham Randolph; M. O. Leighton and Edmund T. Perkins. The following is quoted from the above report:

"Our conclusion, based on our study of ascertained facts, is that the drainage of the Florida Everglades is entirely practicable, and can be accomplished at a cost which the value of the reclaimed land will justify, the cost per acre being very small."

See also Senate Document No. 89, entitled, "Everglades of Florida," containing much detailed information on the subject.

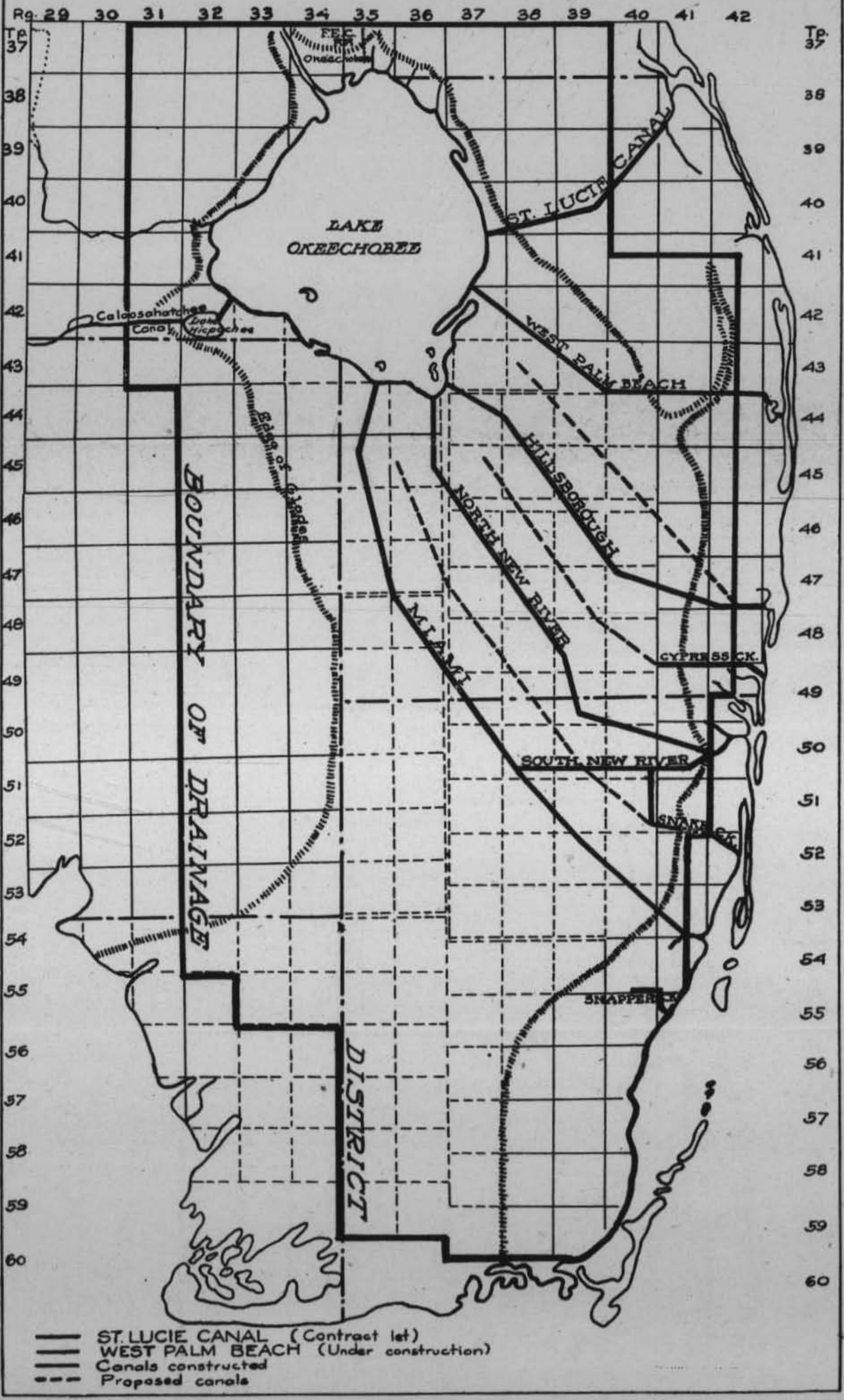
Everglade lands are essentially agricultural. Experience has verified the original belief that the lands of the Everglades would become extremely valuable for agricultural purposes when drained. Their great natural fertility, adaptability to large variety of crops, responsiveness to cultivation, economy of preparation, fertilization, cultiva-


CHICAGO
NEW YORK
84 HOURS SANFRANSCIO TO CHICAGO
5 DAYS SANFRANSCIO TO NEW YORK
84 HOURS LOS ANGLES TO CHICAGO
5 DAYS LOS ANGLES TO NEW YORK
TO CHICAGO
37 HOURS TO NEW YORK
THE EVERGLADES.
GULF OF MEXICO
ENG. Co. JAX. FLA.

COMPARATIVE DISTANCE FROM MARKETS—FLORIDA FRUIT GROWERS AND CALIFORNIA GROWERS.

EVERGLADES DRAINAGE DISTRICT

Issued by the Chief Drainage Engineer
Tallahassee, Fla., February 16, 1915



tion, etc., and high degree of frost immunity, make these lands especially valuable. Early vegetables are marketed before those from any other part of the United States, and a large number of general farm crops grow well in the Everglades. A visit to the south shore of Lake Okeechobee, or to the truck farms on South New River Canal, or to the gardens west of Miami, where many varieties of agricultural products are grown winter and summer, will demonstrate the fertility of Everglades land beyond any sort of questions. Some of the crops successfully grown in reclaimed portions of the Glades are: Tomatoes, potatoes, peppers, beans, egg plants, onions, cabbage, cucumbers, strawberries, radish, beets, lettuce, celery and other vegetables; sugar cane, rice, corn, alfalfa, kafir corn, sorghum, millet, milo maize, many grasses and other staple crops; banana, guava, avacado, papaya and other fruits. Land where these products are growing have not been reclaimed long enough to bring many kinds of fruit trees into bearing, but young trees of lemon, lime, grape fruit, oranges and others, are thriving.

The soil of the Everglades being composed chiefly of decayed vegetable matter is highly nitrogeneous. It is consequently a rich but not well balanced soil, and the application of mineral fertilizers, especially phosphoric acid and potash, have been found to be highly beneficial in greatly increasing the yield and improving the quality of the product. The following extract is taken from the Florida Quarterly Bulletin of the Department of Agriculture, January 1, 1915, on the analysis of Florida muck soils:

"A series of analyses of saw grass muck soils, from the saw grass territory of the upper St. John's valley, in St. Lucie County, will be found under the proper heading. It will be noted that these analyses are practically identical with those of the Everglade muck soils, reported in 1912, analyses by the U. S. Department of Agriculture and the Florida State Laboratory, samples of Everglade soils, taken in 1912, in duplicate by the representatives of the U. S. Department of Agriculture, and the State of Florida, being practically concordant.

"These analyses, together with many others, made by the U. S. Department of Agriculture, the Florida Agricultural Experiment Station, and the Florida State Laboratory, show that the 'saw grass' muck land of all parts of the State, in their original unreclaimed condition, or soon after being 'unwatered' and previous to cultivation; those of the upper St. Johns and Oklawaha Rivers (Lake Apopka saw grass), the Kissimmee Valley, the Everglades, and similar soils in all parts of the State, in large and small bodies, are of similar chemical composition; that when properly drained, aerated and oxidized, by plowing and proper cultivation, become a 'fine soil of wonderful productiveness,' producing large crops of corn, cane, rice, potatoes and similar farm crops, without the addition of commercial fertilizers, when planted in the proper season and properlycultivated. Also that the intelligent use of commercial fertilizers, particularly potash and phosphoric acid, hastens decomposition, quickens nitrification, and hastens the maturity of early truck or vegetable crops, greatly adding to the market value of the same."

An average of thirty-four representative muck samples taken throughout the Everglades shows by chemical analysis the following content of plant food: Ammonia 3.10%, Phosphoric Acid 0.18%, Potash 0.08%.

The drainage will not become thoroughly effective, and lands in the Glades cannot be cultivated with entire safety against damage from overflow until the large canal for controlling Lake Okeechobee shall have been constructed, and the main drainage canals traversing the Everglades are well on toward completion. Conditions gradually improve as the work progresses.

The health of the men residing and working in the Everglades is good.

The Everglades must be seen and studied to be understood. There is no other body of lands like it in the United States. Opinions of persons who have never made an extended examination of the Everglades should not be accepted until verified.

In the drainage of this great inundated prairie there is being developed the most valuable natural resource which the State of Florida possesses. The Everglades Drainage Project is the greatest work of reclamation being carried on in the world today.

SEASONS AND DATES FOR PLANTING VEGETABLES AND OTHER CROPS IN FLORIDA.

The following lists include what experience demonstrates can be successfully grown each month as the season most suitable for each variety comes around in the several sections of the State.

NORTH AND WEST FLORIDA.

January—Asparagus seed, Brussels Sprouts. Cabbage Seed and Plants, Cauliflower seed, Collards, Leeks, Lettuce, Mustard, Onion Sets, Radishes, Rape, Spanish Onion seed, Tomato seed, Turnips, Oats, Strawberry Plants.

February—Asparagus seed, Early Corn, Brussels Sprouts, Cabbage, Carrots, Collards, Eggplant seed, English Peas, Irish Potatoes, Kale, Leeks, Lettuce, Onions, Parsley, Parsnip, Pepper seed, Rutabagas, Salsify, Spinach, Beets, Turnips.

March—Beans, Beets, Brussels Sprouts, Cantaloupes, Carrots, Collards, Cowpeas, Cucumbers, Early Field Corn, Cotton, Eggplant, English Peas, Irish Potatoes, Kale, Kohlrabi, Leek, Okra, Parsley, Parsnip, Pepper, Pumpkin, Radish, Rape, Rutabagas, Salsify, Squash, Sugar Corn, Watermelons, Tomato, Turnip, Sugar Cane, Japanese Cane.

April—Beans, Cantaloupes, Cowpeas, Cucumber, Eggplant, English Peas, Irish Potatoes, Kohlrabi, Lettuce, Okra, Parsley, Parsnip, Peppers, Pumpkins, Radishes, Rutabagas, Squash, Sugar Corn, Field Corn, Sweet Potatoes, Cotton, Tomatoes, Turnips, Watermelons, Sorghum.

May—Beans, Butter Beans, Cantaloupes, Cowpeas, Cucumbers, Eggplant, Okra, Peppers, Pumpkins, Squash, Sugar Corn, Sweet Potatoes, Tomato Plants and seed, Watermelons, Sorghum, Velvet Beans.

June—Butter Beans, Cowpeas, Eggplants, Peppers, Squash, Sweet Potatoes, Tomatoes, Watermelons.

July—Cowpeas, Eggplant, Parsley, Peppers, Pumpkin, Rutabagas, Squash, Sweet Potatoes, Tomato Plants and seed, Watermelons, Sorghum.

August—Beans, Beets, Cabbage, Cauliflower seed, Carrots, Cowpeas, Cucumbers, Collards, Eggplants, Irish Potatoes, Kale, Kohlrabi, Okra, Onions, Rape, Rutabagas, Salsify, Spinach, Squash, Tomatoes, Turnips, Celery seed.

September—Beets, Brussels Sprouts, Cabbage, Carrots, Cauliflower plants, Celery plants, Collards, Cowpeas, English Peas, Irish Potatoes, Kale, Leeks, Lettuce, Mustard, Onion sets, Parsnip, Radishes, Rape, Rutabagas, Salsify, Spinach, Turnips.

October—Beets, Bermuda Onion seed, Brussels Sprouts, Cabbage, Carrots, Cauliflower plants, Celery plants, Collards, Kale, Leeks, Lettuce seeds and plants, Mustard, Onion sets, Parsnips, Radishes, Rape, Spinach, Turnips.

November—Beets, Brussels Sprouts, Cabbage Seeds and plants, Carrots, Collards, Kale, Lettuce, Mustard, Onion Sets, Parsnip, Radishes, Rape, Spinach, Turnips, Oats, Rye, Strawberry Plants, Vetch and Crimson Clover.

December—Cabbage plants and seed, Collards, Leeks, Lettuce plants and seed, Mustard, Onions, Radishes, Rape, Oats, Rye, Strawberry Plants, Vetch and Crimson Clover.

CENTRAL FLORIDA.

January—Asparagus seed, Brussels Sprouts, Cabbage seed and plants, Cauliflower seed, Collards, Leeks, Lettuce, Mustard, Onion sets, Radishes, Rape, Spanish Onion seed, Tomato seed, Turnips, Eggplant seed, Oats.

February—Asparagus seed, Early corn, Sea Island Cotton, Beans, Brussels Sprouts, Cabbage, Cantaloupes, Carrots, Collards, Cucumbers, Eggplant seed, English Peas, Irish Potatoes, Kale, Leeks, Lettuce, Onions, Parsley, Parsnip, Pepper seed, Rutabagas, Salsify, Spinach, Windsor Beans, Beets, Sugar Cane, Field Corn.

March—Beans, Beets, Brussels Sprouts, Cantaloupes, Carrots, Cauliflower, Collards, Cowpeas, Cucumbers, Early Corn, Eggplant, English Peas, Irish Potatoes, Kale, Kohlrabi, Leek, Okra, Onion, Parsley, Parsnip, Pepper, Pumpkin, Radish, Rape, Rutabagas, Salsify, Squash, Sugar Corn, Watermelons, Tomatoes, Turnips, Sea Island Cotton, Sugar Cane, Field Corn.

April—Beans, Cantaloupes, Collards, Cowpeas, Cucumbers, Eggplant, English Peas, Irish Potatoes, Kohlrabi, Lettuce, Okra, Onion Plants, Parsley, Parsnip, Peppers, Pumpkin, Radishes, Rutabagas, Squash, Sugar Corn, Dasheens, Sweet Potatoes, Tomatoes, Turnips, Watermelons, Velvet Beans.

May—Beans, Butter Beans, Cantaloupes, Collards, Cowpeas, Cucumbers, Eggplant, Okra, Peppers, Pumpkins, Squash, Sugar Corn, Sweet Potatoes, Tomato plants and seed, Watermelons, Velvet Beans, Dasheens.

June—Butter Beans, Cabbage seed, Cauliflower seed, Celery seed, Cowpeas, Eggplant, Peppers, Squash, Sweet Potatoes, Tomatoes, Watermelons.

July—Cabbage seed, Cantaloupes, Cauliflower seed, Celery seed, Cowpeas, Eggplant, Parsley, Peppers, Pumpkin, Rutabagas, Squash, Sweet Potatoes, Tomato plants and seed, Watermelons.

August—Beans, Beets, Cabbage, Cauliflower seed, Carrots, Cowpeas, Cress, Cucumbers, Collards, Eggplant, Irish Potatoes, Kale, Kohlrabi, Okra, Onions, Rape, Rutabagas, Salsify, Spinach, Squash, Tomatoes, Turnips, Windsor Beans, Celery seed.

September—Beets, Brussels Sprouts, Cabbage, Carrots, Cauliflower plants, Celery plants, Collards, Cowpeas, Cucumbers, English Peas, Irish Potatoes, Kale, Leeks, Lettuce, Mustard, Onion sets, Parsnip, Radishes, Rape, Rutabagas, Salsify, Spinach, Squash, Turnips.

October—Beets, Bermuda Onion seed, Brussels Sprouts, Cabbage, Carrots, Cauliflower plants, Celery plants, Collards, Kale, Leeks, Lettuce seed and plants, Mustard, Onion Sets, Parsnip, Radishes, Rape, Spinach, Turnips, Strawberry Plants.

November—Beets, Brussels Sprouts, Cabbage seed and plants, Carrots, Collards, Kale, Lettuce, Mustard, Onion Sets, Parsnip, Radishes, Rape, Spinach, Turnips, Oats, Rye, Strawberry Plants.

December—Cabbage plants and seed, Collards, Leeks, Lettuce plants and seed, Mustard, Onions, Radishes, Rape, Strawberry Plants, Oats.

TAMPA, ORLANDO, TITUSVILLE AND SOUTHWARD.

January—Beans, Beets, Brussels Sprouts, Cabbage plants and seed, Carrots, Cauliflower seed, Collards, Eggplant seed, Irish Potatoes, Kale, Kohlrabi, Lettuce, Mustard, Radishes, Rape, Spanish Onion seed, Spinach, Tomato seed, Turnips, Corn, Oats, Sugar Cane.

February—Adams Early Corn, Beans, Beets, Brussels Sprouts, Cabbage, Cantaloupes, Carrots, Cucumbers, Eggplant seed, Irish Potatoes, Kale, Lettuce, Okra, Onions, Pepper seed, Spinach, Squash, Windsor Beans, Field Corn and Sugar Cane.

March—Beans, Beets, Brussels Sprouts, Cantaloupes, Cauliflower, Cowpeas, Cucumbers, Early Corn, Eggplant, Irish Potatoes, Lettuce, Mustard, Okra, Onions, Pepper, Pumpkin, Radish, Squash, Sugar Corn, Tomatoes, Watermelons, Velvet Beans.

April—Beans, Collards, Cowpeas, Cucumbers, Eggplant, Kohlrabi, Okra, Radishes, Squash, Sugar Corn, Sweet Potatoes, Tomatoes, Onion Plants, Pepper, Pumpkins, Velvet Beans.

May—Beans, Butter Beans, Cowpeas, Eggplant, Okra, Peppers, Pumpkins, Squash, Sugar Corn, Sweet Potatoes, Tomatoes.

June—Butter Beans, Cabbage seed, Celery seed, Cowpeas, Eggplant seed, Peppers, Squash, Sweet Potatoes, Tomato plants and seed, Watermelons.

July—Cabbage seed, Cantaloupes, Celery seed, Cowpeas, Eggplants and seed, Peppers, Pumpkins, Squash, Sweet Potatoes, Tomato plants and seed, Watermelons.

August—Beans (snap), Cabbage seed, Cantaloupes, Carrots, Cauliflower seed, Collards, Cowpeas, Cucumbers, Eggplant, English peas, Irish Potatoes, Kale, Kohlrabi, Lettuce, Mustard, Onions, Peppers, Pumpkins, Radishes, Rape, Rutabagas, Spinach, Squash, Swiss Chard, Tomatoes, Turnips, Windsor Beans.

September—Beets, Brussels Sprouts, Cabbage Plants and seed, Carrots, Celery seed and plants, Collards, Cowpeas, Cucumbers, English Peas, Irish Potatoes, Kale, Lettuce, Mustard, Onion sets, Radish, Rape, Rutabagas, Spinach, Squash, Swiss Chard, Turnips.

October—Beets, Bermuda Onion seed, Brussels Sprouts, Cabbage plants and seed, Carrots, Celery Seed, Collards, Kale, Lettuce plants and seed, Mustard, Onion sets, Radishes, Rape, Rutabagas, Spinach, Swiss Chard, Turnips, Strawberry Plants, Oats.

November—Beets, Brussels Sprouts, Cabbage plants and seed, Carrots, Celery seed and plants, Collards, Kale, Lettuce, Mustard, Onion sets, Radishes, Rape, Rutabagas, Spinach, Swiss Chard, Turnips, Oats, Strawberry Plants.

December—Cabbage plants and seed, Celery plants, Collards, Lettuce plants and seed, Mustard, Onion sets and plants, Radishes, Rape, Spanish Onion seed. Swiss Chard, Oats, Strawberry Plants

SOME OTHER USEFUL INFORMATION.

LENGTH OF TIME REQUIRED FOR VEGETABLE SEED TO GERMINATE.

The following periods are about the time it takes the seeds mentioned to sprout after being sown; of course, these periods vary somewhat according to the age of the seed, but more so upon the conditions of the weather and the soil.

Beans	from 4 to 8 days.
Cabbage and Cauliflower	from 4 to 8 days.
Beets	from 8 to 15 days.
Collards	from 4 to 8 days.
Carrots	from 14 to 20 days.
Celery	from 12 to 20 days.
Corn	from 5 to 9 days.
Cukes	from 4 to 10 days.
Egg Plants	from 7 to 20 days.
Lettuce	from 3 to 5 days.
Muskmelon and Cantaloupe	from 5 to 10 days.
Watermelons	from 6 to 12 days.
Mustard	from 3 to 5 days.
Onions	from 6 to 12 days.
Parsley	from 20 to 30 days.
Peas	from 5 to 10 days.
Pepper	from 8 to 15 days.
Radishes	from 3 to 5 days.
Spinach	from 8 to 15 days.
Squash	from 6 to 9 days.
Tomatoes	from 6 to 12 days.
Turnips	from 3 to 5 days.

THE AVERAGE TIME IN FAVORABLE SEASONS FOR PLANTS TO MATURE, FROM THE SOWING OF THE SEED.

Bush Beans, from 40 to 50 days, according to variety.
Pole Beans, from 60 to 90 days, according to variety.
Beets, from 60 to 75 days, according to variety. ......
Cabbage, from 60 to 100 days, early varieties.
Cabbage, from 100 to 120 days, medium early varieties.
Cabbage, from 150 to 190 days, late varieties.
Carrots, from 60 to 75 days, according to varieties.
Cauliflower, from 100 to 150 days, according to varieties.
Celery, about 150 days, Golden Self Blanching variety.
Corn, from 70 to 90 days, according to variety. ....
Cucumbers, from 60 to 80 days, according to variety.
Eggplants, about 120 days.
Lettuce, from 60 to 90 days, according to variety.
Melons, from 80 to 90 days, according to variety.
Mustard, about 35 days.
Okra, about 70 days.
Onions, from 120 to 130 days, according to variety.
Peas, from 60 to 70 days, according to variety.
Pepper, from 100 to 120 days, according to variety.
Potatoes, from 85 to 100 days, according to variety.
Radishes, from 25 to 35 days, according to variety.
Squash, about 60 days for early varieties.
Squash, about 120 to 150 days, for late varieties.
Spinach, from 50 to 60 days.
Tomatoes, from 110 to 130 days, according to variety.
Turnips, from 60 to 90 days, according to variety.

QUANTITY OF SEED REQUIRED FOR A GIVEN NUMBER OF HILLS.

Pole Beans	1 pint to 100 hills.
Corn, Sweet	½ pint to 100 hills.
Cucumbers	1 ounce to 50 hills.
Watermelons	1 ounce to 30 hills.
Okra	1 ounce to 100 hills.

Pumpkins	1 ounce to 30 hills.
Squash	1 ounce to 30 hills.
Muskmelons	1 ounce to 50 hills.

QUANTITY OF SEED FOR A GIVEN LENGTH OF DRILL.

Beets	1 ounce to 60 feet of drills.
Beans, Bush	½ pint to 50 feet of drills.
Carrots	1 ounce to 150 feet of drills.
Okra	1 ounce to 75 feet of drills.
Onions, seed	½ ounce to 100 feet of drills.
Onion, Sets	1 quart to 40 feet of drills.
Parsley	1 ounce to 150 feet of drills.
Peas	1 quart to 100 feet of drills.
Radishes	1 ounce to 100 feet of drills.
Spinach	1 ounce to 100 feet of drills.
Turnips	1 ounce to 175 feet of drills.

QUANTITY OF SEED REQUIRED FOR GIVEN NUMBER OF PLANTS.

Cabbage	1 ounce for 2,000 plants.
Cauliflower	1 ounce for 2,000 plants.
Collards	1 ounce for 2,000 plants.
Celery	1 ounce for 7,500 plants.
Eggplant	1 ounce for 1,500 plants.
Lettuce	1 ounce for 3,000 plants.
Pepper	1 ounce for 1,500 plants.
Tomatoes	1 ounce for 3,000 plants.

NUMBER OF PLANTS TO THE ACRE AT GIVEN DISTANCES.

12 inches by 3 inches	174,240 plants.
12 inches by 12 inches	43,560 plants.
18 inches by 3 inches	116,160 plants.
18 inches by 12 inches	29,040 plants.
18 inches by 18 inches	19,360 plants.
24 inches by 18 inches	14,520 plants.
24 inches by 24 inches	10,890 plants.

30 inches by 12 inches	17,424	plants.
30 inches by 20 inches	10,454	plants.
30 inches by 24 inches	8,712	plants.
30 inches by 30 inches	6,970	plants.
36 inches by 3 inches	58,080	plants.
36 inches by 12 inches	14,520	plants.
36 inches by 18 inches	9,680	plants.
36 inches by 24 inches	7,260	plants.
36 inches by 36 inches	4,840	plants.
48 inches by 24 inches	5,445	plants.
48 inches by 30 inches	4,356	plants.
48 inches by 36 inches	3,630	plants.
48 inches by 48 inches	2,723	plants.
60 inches by 36 inches	2,901	plants.
60 inches by 48 inches	2,178	plants.

PROPER DISTANCES FOR PLANTING TREES.

Oranges on common stock	25 to 30 ft. each way.
Oranges on C. Trifoliata	18 to 20 ft. each way.
Lemons	15 to 20 ft. each way.
Grape Fruit	25 to 30 ft. each way.
Limes	12 to 15 ft. each way.
Kumquats	10 to 12 ft. each way.
Peaches and Apples	18 to 20 ft. each way.
Plums	15 to 18 ft. each way.
Japanese Persimmons	15 to 20 ft. each way.
Avocado Pears	15 to 20 ft. each way.
Mangoes	15 to 20 ft. each way.
Guavas	12 to 15 ft. each way.
Pears, LeConte	25 to 30 ft. each way.
Pears, general varieties	20 to 25 ft. each way.
Grapes, Bunch varieties	8 to 10 ft. each way.
Grapes, Muscadine type	18 to 25 ft. each way.
Figs	12 to 15 ft. each way.
Pecans	40 to 60 ft. each way.

NUMBER OF TREES OR PLANTS TO THE ACRE.

Distance Apart, Feet.	Number of Trees.
1 by 1	43,560
2 by 2	10,890
3 by 3	4,840
4 by 4	2,722
5 by 5	1,742
6 by 6	1,210
7 by 7	888
8 by 8	680
9 by 9	537
10 by 10	435
11 by 11	360
12 by 12	302
13 by 13	257
14 by 14	222
15 by 15	193
16 by 16	170
17 by 17	150
18 by 18	134
19 by 19	120
20 by 20	108
25 by 25	69
30 by 30	48
35 by 35	35
40 by 40	27
45 by 45	21
50 by 50	17
60 by 60	12

LIFE OF SEEDS.

Below is a list showing the life of seeds. If they are older they are usually worthless. Also seeds do not keep so well in the South as in the dryer atmosphere of the North, and it will not be safe to use older seeds in Florida than the limits given.

Asparagus	2 years.
Beans	1 year.
Cantaloupes	3 years.
Watermelons	6 years.
Beets	3 years.
Cabbage	3 years.
Carrots	1 year.
Cauliflower	2 years.
Celery	3 years.
Collard	4 years.
Corn (sweet)	2 years.
Cucumbers	4 years.
Egg Plant	5 years.
Lettuce	1 year.
Okra	3 years.
Onions	1 year.
Peas	1 year.
Parsley	2 years.
Peppers	2 years.
Pumpkins	5 years.
Spinach	1 year.
Squash	3 years.
Turnips	2 years.
Tobacco	4 years.

CROP STATISTICS FOR 1913-14.

In discussing the acreage and yields of crops for 1913-14, as appear on the following pages, it will be noted that Suwannee county is omitted from this report. There was no reason for not complying with the law. It was simply a case of neglect of a duty whose importance the county authorities could not appreciate, but for which there can be no reasonable excuse, and that the county will be the loser by it, must be considered a certainty. Consequently, the reader of this report is asked to bear in mind the fact, that as great as the increase is in all the several schedules of these statistics, that it would have been greater still if all the counties had reported.

We invite your attention to the figures that follow, and also to the details of the tables of agricultural statistics that follow further on.

ACREAGES.

The acreage planted to field crops reported for 1911-12, is 937,264, as compared with 1,103,499 for 1909-10, showing a decrease of 166,235 acres planted to standard field crops. The acreage in vegetable and garden products was 63,241 for 1911-12, as compared with 54,047 for 1909-10, or 9,194 acres increase over 1909-10. The total acreage in cultivation was 1,000,505 acres for 1911-12, as against 1,157,546 acres for 1909-10, or a net loss of 157,041 acres in favor of 1909-10.

For the period included for 1913-14 the acreage planted to field crops was 1,081,434, an increase over that of 1911-12 of 144,170 acres actually cultivated. The acreage planted to vegetable and garden products for the same period was 93,413, or an increase of 30,172 acres in actual cultivation, over that of 1911-12, being over 30%.

VALUE OF FIELD CROPS.

It is noticeable that in this schedule the increased value of the products is even much greater in proportion to both acreage and yield than in 1911-12, and also that the yield is greater per acre than in former years. This can readily be accounted for by the fact that within the past two years great improvement has been made in the methods of farm operations, such as better methods of planting and cultivating, better seed by selection, better methods of soil preparation, intensive cultivation and more and better fertilizing. The value of these crops for 1911-12 was $16,051,730, as against $14,612,840, or an increase of $1,438,890 in favor of 1911-12.

The value of the standard crops for 1913-14 amounted to $18,861,389. Showing an increase of $2,809,659 in value over 1911-12, and in favor of 1913-14.

VALUE OF VEGETABLE AND GARDEN PRODUCTS.

In this class of products the effects of better methods of planting, cultivating, etc., is shown in a more convincing manner than ever before, as the 9,194 acres increase planted to these crops has alone raised the value of the yield nearly 70 per cent. over 1909-10. The value of these crops for 1911-12 was $8,056,685, as against $6,825,912, or an increase of $1,230,773 in favor of 1911-1912.

In this schedule we have a most interesting condition, as not only was there an increase of over 30% in the acreage as compared with 1911-12, but the increase in production on these lands excels anything in the past. The yield in value of these products for 1913-14 was $13,185,904, showing an increase of $5,129,219 or more than 60% over 1911-12, and in favor of 1913-14.

VALUE OF FRUIT PRODUCTS.

Of all the schedules this one shows the greatest gain. The value of the fruit products for 1909-10 was $5,905,727, while the value of the same products for 1911-12 was $10,025,163, showing a gain of $4,119,436 above the value of the crops for 1909-10.

In this schedule there is also a large increase. The value of the fruit crops of the State for 1913-14 was $13,447,435, an increase of $3,422,272 over that of 1911-12. For much interesting information we direct you to Table of Fruit Crops.

VALUE OF LIVE STOCK.

In this schedule the greatest gain in any schedule is shown. All live stock increased in number and value. During the year 1914 alone there were shipped out of the State 100,000 head, and still the number increased, till there are more cattle in the State today than ever before. It speaks volumes for the farmer, when he can supply his own meat and bread for the year and have some to spare for foreign market also. It enables him thereby to enjoy some of the luxuries of life. That is exactly the condition that has come about in hundreds of homes in the past two years in Florida, where such conditions were unknown before, and the indications are that it is just the beginning.

The value of the live stock of the State for 1911-12 is shown as $23,510,479, as against $23,967,501 for 1909-10. In 1911-12 the value of live stock on hand was $23,510,479, but in 1913-14 the census shows it to be $29,541,931, an increase of $6,031,454, the best ever known and the highest point ever attained in the history of the industry.

VALUE OF POULTRY AND PRODUCTS.

In this industry we also find a very great improvement, and a much larger increase than usual, which amounts in this case to $1,137,715. It is well known that a much greater interest in poultry raising has been manifested during the last two years than ever before, and the proof is shown in the remarkable increase of over a million dollars in value. The value of the products of this industry for 1911-12 was $3,527,286, as against $2,413,940 for 1909-10. We are pleased to note such an improvement, as the poultry industry, is one of the most important branches of farm economy. If it reached the ten million dollar mark it would hardly supply the demand.

The value of poultry products for 1913-14 was $4,665,001, showing an increase of $1,137,715 over 1911-12. This we consider a remarkable showing.

VALUE OF DAIRY PRODUCTS.

In this schedule another remarkable increase is shown in this most important branch of farm work, and one also of the most profitable in proportion to capital required to direct it. The value of the dairy products for 1909-10 was $2,851,479, as against $2,518,241 in 1911-12, showing a balance in favor of 1909-10 of $233,238. But in the schedule for 1913-14 the industry has made great gain. The value of the industry for 1911-12 was $2,518,241. The value of the products of this industry for 1913-14 was $4,130,925, showing a splendid increase of $1,612,684, instead of a loss as in 1911-12.

The statistical tables showing all of this in detail by counties, follow on succeeding pages.

VALUE OF MISCELLANEOUS PRODUCTS.

The products making up this schedule, while important in themselves separately, do not show much in the aggregate. The value of these products for 1909-10 was $135,435, as against $133,713 for 1911-12.

Coming down to the grand total for 1911-12, we find the sum of $63,823,297, as the value of the products, including live stock, for the State, as shown in this report, as against the sum of $56,712,734 for 1909-10, showing a magnificent as well as a wonderful increase of $7,110,563.

YEAR 1909-10.

Table No. 8—Total Acreage of Crops.

Field Crops, acres	1,103,499
Vegetables and Garden Products, acres	54,047
Total acreage in cultivation	1,157,546

Table No. 9—Total Value of Farm Products.

Table No. 1.—Field Crops	$14,612,840
Table No. 2.—Vegetable and Garden Products.	6,825,912
Table No. 3.—Fruit Products	5,905,727
Table No. 4.—Live Stock	23,967,501
Table No. 5.—Poultry and Products	2,413,940
Table No. 6.—Dairy Products	2,851,479
Table No. 7.—Miscellaneous Products	135,435
Total	$56,712,734

YEAR 1911-12.

Table No. 8—Total Acreage of Crops.

Field Crops, acres	937,264
Vegetable and Garden Products, acres	63,241
Total acreage in cultivation	1,000,505

Table No. 9—Total Value of Farm Products.

Table No. 1—Field Crops	$16,051,730
Table No. 2—Vegetable and Garden Products	8,056,685
Table No. 3—Fruit Products	10,025,163
Table No. 4—Live Stock on Hand	23,510,479
Table No. 5—Poultry and Products	3,527,286
Table No. 6—Dairy Products	2,518,241
Table No. 7—Miscellaneous Products	133,713
Total	$63,823,297

YEAR 1913-14.

Table No. 8—Total Acreage of Crops.

Field Crops, acres	1,081,434
Vegetable and Garden Products, acres	93,413
Total acreage in cultivation	1,174,847

Table No. 9—Total Value of All Farm Products.

Table No. 1—Field Crops	$18,861,389
Table No. 2—Vegetable and Garden Products	13,185,904
Table No. 3—Fruit Products	13,447,435
Table No. 4—Live Stock on Hand	29,541,931
Table No. 5—Poultry and Products	4,665,001
Table No. 6—Dairy Products	4,130,925
Table No. 7—Apiary Products	104,550
Total	$83,937,135

The following is a list of the County Enumerators, and their post office addresses, who performed the field work in gathering the Agricultural, Horticultural, Live Stock and Industrial Statistics of the several counties. The result of this work is found in the tables that follow.

COUNTIES.	Names of County Enumerators.	Post Office Address.
Alachua	E. G. Spencer	Alachua, Fla.
Baker	E. W. Turner	Macclenny, Fla.
Bay	John J. Ward	Panama City, Fla.
Bradford	R. A. Green	Sampson City, Fla.
Brevard	Chas. D. Stewart	Banyon, Fla.
Calhoun	J. E. Yon	Blountstown, Fla.
Citrus	W. J. Moon	Floral City, Fla.
Clay	Ellis Hatcher	Green Cove Springs, Fla.
Columbia	E. N. Keen	Lake City, Fla.
Dade	J. F. Jaudon	Miami, Fla.
DeSoto	R. J. Davis	Arcadia, Limestone, Fla.
Duval	W. H. Storms, Room 9, Court House	Jacksonville, Fla.
Escambia	W. M. J. Scott	Pensacola, Fla.
Franklin	W. J. Lovett	Apalachicola, Fla.
Gadsden	H. C. Patterson	Concord, Fla.
Hamilton	R. J. Bush	Jasper, Fla.
Hernando	A. P. McKeown	Brooksville, Fla.
Hillsboro	Benj. L. Blackburn	Tampa, Fla.
Holmes	C. E. Mathews	Westville, Fla.
Jackson	T. Walter Padgett	Marianna, Fla.
Jefferson	E. C. Powell	Metcalf, Ga.
Lafayette	E. H. Sauls	Fletcher, Fla.
Lake	J. E. Peper	Tavares, Fla.
Lee	H. K. Stevens	Ft. Myers, Fla.
Leon	B. F. Maxwell	Tallahassee, Fla.
Levy	H. E. Sheppard	Chiefland, Fla.
Liberty	R. H. Weaver	Bristol, Fla.
Madison	H. B. Gibson	Madison, Fla.
Manatee	C. F. McCall	Bradentown, Fla.
Marion	Norman A. Fort	Lynn, Fla.
Monroe	John T. Durst	Key West, Fla.
Nassau	Herbert Gordon	Hilliard, Fla.
Orange	A. S. Eldridge	Apopka, Fla.
Osceola	H. N. Bratton	Kissimmee, Fla.
Palm Beach	W. C. C. Branning, Sr.	West Palm Beach, Fla.
Pasco	J. H. Pike	San Antonio Fla.
Pinellas	A. C. Turner	Clearwater, Fla.
Polk	Chas. M. Sutton	Lakeland, Fla.
Putnam	Julien D. Nazarie	Palatka, Fla.
Santa Rosa	Putnam Jarnigan	Milton, Fla.
Seminole	Geo. D. Hart	Sanford, Fla.
St. Johns	Jno. W. Davis	St. Augustine, Fla.
St. Lucie	J. T. Waters	Walton, Fla.
Sumter	B. S. Branch	Sumterville, Fla.
*Suwannee		
Taylor	J. P. Goza	Perry, Fla.
Volusia	Otto R. Kirchoff	DeLand, Fla.
Wakulla	G. D. Linzy, R. F. D. No. 1	Ben Haden, Fla.
Walton	W. M. Smith	Ponce de Leon, Fla.
Washington	Miles G. Coleman	Vernon, Fla.

*Not reported.

Agricultural Statistics

FOR THE YEARS 1913-14.

LAND AREAS IN FLORIDA BY COUNTIES.

COUNTIES.	Approximate Area in Square Miles.	Approximate Area in Acres.	Acres in Actual Cultivation.
Alachua	1,283	807,680	77,644
Baker	585	375,680	16,090
*Bay	692	442,880	2,542
Bradford	522	344,960	43,8[illegible]0
Brevard	1,156	656,000	576
*Calhoun	1,060	762,880	13,775
Citrus	612	396,800	7,926
Clay	622	394,880	4,211
Columbia	792	506,880	58,249
*Dade	2,733	1,749,120	13,081
DeSoto	3,755	2,402,560	9,778
Duval	822	503,040	9,046
Escambia	668	420,480	16,143
Franklin	731	346,240	1,209
Gadsden	500	345,600	47,726
Hamilton	508	337,920	37,917
Hernando	475	318,080	3,175
Hillsboro	1,075	688,000	10,352
Holmes	435	293,120	38,468
Jackson	963	617,600	237,367
Jefferson	593	374,400	57,661
Lafayette	1,202	796,160	23,299
Lake	1,128	670,080	12,335
Lee	4,641	2,579,840	1,809
Leon	730	457,600	61,173
Levy	1,133	731,520	21,294
Liberty	725	526,720	5,620
Madison	693	460,160	66,771
Manatee	1,275	855,680	5,575
Marion	1,640	1,054,080	39,897
Monroe	1,125	704,000	892
Nassau	645	403,200	6,414
*Orange	955	569,600	3,454
Osceola	1,827	1,134,720	1,684
*Palm Beach	3,048	1,950,720	3,614
Pasco	750	490,880	8,300
*Pinellas	234	149,760	747
Polk	1,967	1,220,480	6,878
Putnam	772	481,280	11,092
Santa Rosa	1,528	989,440	33,813
*Seminole	360	230,400	3 096
St. Johns	960	618,240	32,611
St. Lucie	1,260	892,800	1,622
Sumter	599	373,120	26,039
Suwannee	680	442,880	†
Taylor	1,100	680,960	10,048
Volusia	1,281	803,840	7,619
Wakulla	601	385,280	13,065
*Walton	1,505	964,480	31,448
*Washington	652	469,320	28,626
Totals	54,240	35,111,040	1,174,847

*Estimated because of county division.
†Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.

COUNTIES.	COTTON, UPLAND.		
	ACRES.	BALES.	VALUE.
Alachua	1,307	162	$ 6,070
Baker	132	75	3,750
Bay	27	12	620
Bradford	61	24	1,235
Brevard	.....	.....	.....
Calhoun	1,354	496	24,505
Citrus	.....	.....	.....
Clay	8	3	114
Columbia	138	73	679
Dade	.....	.....	.....
DeSoto	.....	.....	.....
Duval	.....	.....	.....
Escambia	2,603	935	54,472
Franklin	.....	.....	.....
Gadsden	1,986	707	33,303
Hamilton	94	32	1,875
Hernando	.....	.....	.....
Hillsboro	.....	.....	.....
Holmes	9,932	4,866	291,980
Jackson	52,260	23,367	1,578,025
Jefferson	18,146	6,040	351,912
Lafayette	.....	.....	.....
Lake	.....	.....	.....
Lee	.....	.....	.....
Leon	17,482	4,609	220,389
Levy	60	27	1,218
Liberty	225	85	4,780
Madison	2,924	872	30,131
Manatee	.....	.....	.....
Marion	987	329	16,450
Monroe	.....	.....	.....
Nassau	62	50	2,415
Orange	.....	.....	.....
Osecola	.....	.....	.....
Palm Beach	.....	.....	.....
Pasco	3	1	50
Pinellas	1	1	90
Polk	.....	.....	.....
Putnam	17	10	397
Santa Rosa	6,945	2,712	136,442
Seminole	.....	.....	.....
St. Johns	.....	.....	.....
St. Lucie	3	3	100
Sumter	.....	.....	.....
*Suwannee	.....	.....	.....
Taylor	.....	.....	.....
Volusia	.....	.....	.....
Wakulla	416	231	14,415
Walton	5,665	2,415	145,202
Washington	3,247	3,003	53,612
Totals	126,085	51,140	$ 2,974,231

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	COTTON, SEA ISLAND.		
	ACRES.	BALES.	VALUE.
Alachua	17,105	4,513	$ 326,045
Baker	3,420	1,068	86,880
Bay			
Bradford	6,734	2,333	175,970
Brevard			
Calhoun	97	29	1,997
Citrus	8	1	115
Clay	50	[illegible]	1,176
Columbia	17,655	3,900	258,316
Dade			
DeSoto			
Duval			
Escambia	4	2	200
Franklin			
Gadsden	115	30	2,270
Hamilton	13,643	4,126	273,429
Hernando			
Hillsboro			
Holmes			
Jackson	59	16	1,195
Jefferson	651	152	10,848
Lafayette	4,377	1,022	77,349
Lake			
Lee			
Leon	20	10	500
Levy	1,009	273	16,151
Liberty			
Madison	13,114	2,664	203,930
Manatee			
Marion	5,334	1,778	142,240
Monroe			
Nassau			
Orange	16	7	500
Osceola			
Palm Beach			
Pasco	1	1	100
Pinellas			
Polk			
Putnam	150	47	4,700
Santa Rosa			
Seminole			
St. Johns			
St. Lucie			
Sumter	1	1	40
*Suwannee			
Taylor	1,416	318	22,277
Volusia			
Wakulla	42	7	523
Walton			
Washington	5	1	105
Totals	85,026	22,321	$ 1,606,856

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	CORN.		
	ACRES.	BUSHELS.	VALUE.
Alachua	35,135	444,790	$ 348,168
Baker	8,488	110,105	110,105
Bay	1,183	12,868	12,873
Bradford	19,652	259,001	187,907
Brevard	8	415	320
Calhoun	7,753	95,182	95,182
Citrus	3,558	31,378	31,869
Clay	2,416	30,117	30,117
Columbia	29,053	278,096	277,096
Dade	315	† 10	11,672
DeSoto	3,633	86,762	86,762
Duval	1,913	40,341	47,405
Escambia	7,709	113,571	113,571
Franklin	143	5,720	5,720
Gadsden	28,343	414,120	311,040
Hamilton	21,808	227,115	227,115
Hernando	1,893	34,065	34,065
Hillsboro	6,234	98,623	99,028
Holmes	17,671	192,268	192,268
Jackson	88,894	728,187	728,187
Jefferson	30,870	324,506	318,514
Lafayette	13,146	136,838	121,133
Lake	2,861	28,991	29,351
Lee	267	6,765	8,533
Leon	34,479	327,218	193,915
Levy	9,704	92,075	84,574
Liberty	3,655	43,980	43,940
Madison	34,357	383,338	269,004
Manatee	1,007	14,602	14,572
Marion	10,933	109,330	109,330
Monroe	....	....	....
Nassau	3,727	65,673	65,668
Orange	1,178	19,750	19,750
Osceola	711	1,282	12,322
Palm Beach	3	132	283
Pasco	3,929	37,028	48,434
Pinellas	29	410	710
Polk	3,906	66,899	57,928
Putnam	5,924	174,980	174,980
Santa Rosa	17,037	256,256	256,256
Seminole	453	15,750	15,740
St. Johns	11,313	359,620	213,973
St. Lucie	46	1,435	1,435
Sumter	8,154	77,401	77,401
*Suwannee	....	....	....
Taylor	5,993	60,704	43,680
Volusia	3,197	40,760	33,496
Wakulla	9,525	74,907	26,726
Walton	16,435	188,748	188,748
Washington	14,485	149,542	123,317
Totals	532,226	6,261,654	$ 5,504,098

*Not reported.
†Cut for forage.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	OATS.		
	ACRES.	BUSHELS.	VALUE.
Alachua	1,310	33,038	$ 22,583
Baker	248	2,996	2,173
Bay	88	1,520	927
Bradford	663	8,864	8,683
Brevard	.....	.....	.....
Calhoun	395	3,745	2,507
Citrus	43	867	463
Clay	105	1,246	925
Columbia	1,843	22,315	22,240
Dade	.....	.....	.....
DeSoto	2	150	150
Duval	38	807	1,181
Escambia	480	7,314	4,143
Franklin	.....	.....	.....
Gadsden	2,220	40,600	30,450
Hamilton	459	2,915	2,855
Hernando	38	760	700
Hillsboro	10	950	810
Holmes	151	1,480	887
Jackson	5,276	58,731	33,808
Jefferson	1,056	13,504	15,258
Lafayette	182	2,668	2,446
Lake	139	875	717
Lee	1	12	24
Leon	1,094	9,454	8,596
Levy	425	7,831	7,821
Liberty	246	2,532	1,853
Madison	3,605	61,611	42,756
Manatee	.....	.....	.....
Marion	841	12,910	9,490
Monroe	.....	.....	.....
Nassau	222	3,367	3,948
Orange	7	295	285
Osceola	1	6	6
Palm Beach	.....	.....	.....
Pasco	8	130	130
Pinellas	1	25	15
Polk	2	150	150
Putnam	25	800	1,250
Santa Rosa	729	16,624	11,152
Seminole	20	1,000	500
St. Johns	29	2,170	1,102
St. Lucie	4	50	50
Sumter	206	1,659	1,361
*Suwannee	.....	.....	.....
Taylor	187	1,773	1,195
Volusia	.....	.....	.....
Wakulla	126	1,955	1,955
Walton	448	4,420	2,973
Washington	722	26,852	6,013
Totals	23,695	360,969	$ 256,531

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

	SWEET POTATOES.		
	ACRES.	BUSHELS.	VALUE.
Alachua	986	144,542	$ 81.106
Baker	283	56,965	28.212
Bay	268	24.041	24,075
Bradford	891	102,666	53,143
Brevard	305	13,345	13,700
Calhoun	315	26,031	13,733
Citrus	345	37,756	40,249
Clay	356	56,061	67,155
Columbia	617	69,290	68,187
Dade	84	11,460	12,595
DeSoto	791	94,397	94,397
Duval	1,375	194,426	194,431
Escambia	703	65,672	35,775
Franklin	126	25,100	25,100
Gadsden	1,460	103,510	57,755
Hamilton	318	42,135	42,135
Hernando	170	34,560	33,760
Hillsboro	581	81,514	81,428
Holmes	430	60,562	30,281
Jackson	2,947	160,101	84,924
Jefferson	1,209	76,294	55,818
Lafayette	167	25,472	19,012
Lake	351	25,204	23,124
Lee	316	63,455	65.180
Leon	1,441	96,189	78,978
Levy	383	32,121	23.246
Liberty	185	20,580	12,634
Madison	584	73,438	36,299
Manatee	231	22,770	18,600
Marion	439	43,900	34,605
Monroe	651	9,376	17,830
Nassau	862	114,733	57,753
Orange	189	18,840	18,852
Osceola	119	13,929	10,446
Palm Beach	52	7,123	11,144
Pasco	720	63,214	118,520
Pinellas	67	7,970	7,904
Polk	476	77,394	78,677
Putnam	572	121,170	60,695
Santa Rosa	988	102,852	73,333
Seminole	74	10,320	9,395
St. Johns	855	84,041	62,855
St. Lucie	33	5,215	5,820
Sumter	520	41.668	25.280
*Suwannee	....	....	....
Taylor	115	20,110	14,770
Volusia	559	53,060	40.260
Wakulla	232	23,720	23,720
Walton	794	75,095	37,362
Washington	560	42,931	35,016
Totals	27,104	2,776,268	$ 2,159.269

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	RICE.		
	ACRES.	BUSHELS.	VALUE.
Alachua	2	38	$ 38
Baker	3	35	35
Bay	22	182	200
Bradford	10	295	490
Brevard	.....	.....	.....
Calhoun	17	238	238
Citrus	1	15	20
Clay	1	3	3
Columbia	13	255	255
Dade	3	60	50
DeSoto	27	967	2,245
Duval	1	7	21
Escambia	24	478	558
Franklin	.....	.....	.....
Gadsden	3	65	65
Hamilton	1	35	35
Hernando	3	50	200
Hillsboro	112	4,368	4,405
Holmes	1	30	30
Jackson	1	10	80
Jefferson	8	320	398
Lafayette	7	92	120
Lake	16	698	800
Lee	3	110	220
Leon	2	133	113
Levy	7	510	470
Liberty	3	60	100
Madison	2	45	65
Manatee	30	600	688
Marion	20	600	1,000
Monroe	.....	.....	.....
Nassau	10	115	200
Orange	4	140	180
Osceola	48	1,162	806
Palm Beach	.....	.....	.....
Pasco	10	288	470
Pinellas	45	1,370	2,735
Polk	10	345	484
Putnam	18	400	920
Santa Rosa	16	1,204	1,260
Seminole	.....	.....	.....
St. Johns	121	6,045	12,000
St. Lucie	.....	.....	.....
Sumter	1	40	80
*Suwannee	.....	.....	.....
Taylor	1	50	50
Volusia	.....	.....	.....
Wakulla	.....	.....	.....
Walton	4	113	498
Washington	11	223	227
Totals	652	21,794	$ 32,942

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	SUGARCANE. SYRUP.		
	ACRES.	BARRELS.	VALUE.
Alachua	327	3,035	$ 93,722
Baker	129	1,351	13,480
Bay	119	743	11,181
Bradford	422	3,410	38,429
Brevard	3	10	135
Calhoun	384	3,224	25,011
Citrus	169	1,462	13,213
Clay	79	354	3,976
Columbia	259	2,910	33,027
Dade	100	†	7,775
DeSoto	318	1,900	45,260
Duval	88	407	4,267
Escambia	251	1,532	28,228
Franklin	93	1,480	23,680
Gadsden	1,515	13,367	133,670
Hamilton	227	1,960	29,924
Hernando	125	676	12,760
Hillsboro	225	1,123	20,385
Holmes	363	2,507	40,878
Jackson	2,552	11,520	158,060
Jefferson	589	4,192	42,670
Lafayette	125	1,015	14,940
Lake	107	409	7,129
Lee	240	1,244	27,057
Leon	831	4,196	49,456
Levy	229	1,396	18,876
Liberty	153	1,460	14,143
Madison	332	2,973	39,522
Manatee	135	668	11,986
Marion	164	897	14,260
Monroe	....	....	....
Nassua	329	3,344	33,798
Orange	15	34	796
Osceola	31	390	5,178
Palm Beach	15	69	1,535
Pasco	206	1,352	16,710
Pinellas	398	1,447	57,271
Polk	234	2,648	43,040
Putnam	131	515	15,450
Santa Rosa	485	4,076	69,370
Seminole	3	7	175
St. Johns	267	556	8,880
St. Lucie	18	93	4,196
Sumter	213	1,063	21,960
*Suwannee	....	....	....
Taylor	66	693	10,160
Volusia	43	211	3,165
Wakulla	222	2,004	13,825
Walton	376	2,301	28,955
Washington	383	2,669	30,517
Totals	14,088	94,899	$ 1,337,081

*Not reported.
†Used by chewing.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	FIELD PEAS.		
	ACRES.	BUSHELS.	VALUE.
Alachua	134	580	$ 1,780
Baker	74	360	1,725
Bay	196	242	546
Bradford	486	4,496	9,752
Brevard	....	....	....
Calhoun	147	1,192	2,236
Citrus	197	1,962	3,261
Clay	231	1,587	4,733
Columbia	281	2,841	8,039
Dade	8	160	285
DeSoto	608	11,942	22,783
Duval	50	2,163	4,014
Escambia	164	1,071	2,382
Franklin	147	3,534	7.068
Gadsden	164	1,566	3.132
Hamilton	112	760	1,414
Hernando	80	900	3,825
Hillsboro	528	5,655	7,524
Holmes	82	1,252	2,504
Jackson	543	2,049	4,954
Jefferson	230	1,019	2,670
Lafayette	58	413	836
Lake	309	1,714	4.448
Lee	111	3,830	7,335
Leon	680	3,918	8.766
Levy	116	988	1,977
Liberty	33	162	309
Madison	293	486	1,285
Manatee	14	91	217
Marion	195	1,792	4,901
Monroe	....	....	....
Nassau	320	3,150	4,241
Orange	4	30	60
Osceola	5	149	380
Palm Beach	2	132	215
Pasco	767	7,115	14,536
Pinellas	7	30	90
Polk	109	755	1,850
Putnam	390	5,733	11,565
Santa Rosa	811	8,477	16,135
Seminole	8	100	200
St. Johns	589	17,715	35,384
St. Lucie	13	35	90
Sumter	440	2,291	5,223
*Suwannee	....	....	....
Taylor	15	155	358
Volusia	320	3,215	7,245
Wakulla	15	82	240
Walton	185	1,289	3,513
Washington	249	1,409	3,055
Totals	10,520	110,647	$ 229,081

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	FIELD PEA HAY.		
	ACRES.	TONS.	VALUE.
Alachua	2,380	2,273	$ 51,393
Baker	81	109	2,195
Bay	24	20	395
Bradford	397	426	9,849
Brevard	6	10	230
Calhoun	74	93	1,674
Citrus	49	54	108
Clay	50	55	1,100
Columbia	485	211	3,819
Dade	84	19	1,135
DeSoto	675	167	3,260
Duval	111	117	1,200
Escambia	307	271	5,165
Franklin	97	253	6,325
Gadsden	826	726	5,020
Hamilton	125	146	2,610
Hernando	155	207	4,700
Hillsboro	9	19	319
Holmes	10	11	215
Jackson	338	312	3,205
Jefferson	775	787	14,995
Lafayette	13	35	820
Lake	345	310	5,727
Lee	8	11	215
Leon	2,189	1,919	31,424
Levy	156	326	3,529
Liberty	7	13	200
Madison	1,400	1,047	18,800
Manatee	5	10	250
Marion	500	500	9,840
Monroe	....	....	....
Nassau	102	74	1,315
Orange	80	102	3,000
Osceola	9	17	344
Palm Beach	16	28	180
Pasco	433	733	8,168
Pinellas	4	19	370
Polk	132	194	3,620
Putnam	474	1,589	24,580
Santa Rosa	302	496	8,285
Seminole	4	8	160
St. Johns	58	113	1,645
St. Lucie	31	108	595
Sumter	275	349	4,463
*Suwannee	....	....	....
Taylor	19	118	600
Volusia	505	664	13,270
Wakulla	95	101	3,170
Walton	76	152	1,580
Washington	78	81	1,555
Totals	14,374	15,403	$ 266,617

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	HAY, NATIVE GRASSES.		
	ACRES.	TONS.	VALUE.
Alachua	2,301	1,917	$ 24,200
Baker	78	96	1,760
Bay	28	28	555
Bradford	490	507	10,564
Brevard	....	....	....
Calhoun	544	468	8,363
Citrus	261	212	4,148
Clay	179	198	3,960
Columbia	445	112	1,931
Dade	510	520	10,375
DeSoto	684	1,397	27,466
Duval	4,475	2,707	29,715
Escambia	968	804	14,643
Franklin	....	....	....
Gadsden	2,564	2,509	50,180
Hamilton	300	258	3,880
Hernando	58	66	1,230
Hillsboro	186	274	3,645
Holmes	139	107	1,747
Jackson	3,540	2,023	19.420
Jefferson	512	343	6,795
Lafayette	91	295	5,900
Lake	2,096	1,777	31,647
Lee	6	4	90
Leon	816	576	8,596
Levy	683	749	20,035
Liberty	76	158	2,004
Madison	599	522	6,457
Manatee	373	708	8,785
Marion	750	750	11,240
Monroe	....	....	....
Nassau	259	258	4,297
Orange	1,042	1,118	22,239
Osceola	530	483	9,670
Palm Beach	109	635	4,630
Pasco	421	520	4,825
Pinellas	10	1,201	1,179
Polk	271	234	5,296
Putnam	358	715	14,300
Santa Rosa	172	212	4,293
Seminole	358	647	9,260
St. Johns	6,813	6,902	106,157
St. Lucie	102	217	6,368
Sumter	1,824	1,930	37,556
*Suwannee	....	....	....
Taylor	....	....	....
Volusia	721	668	13,560
Wakulla	112	89	1,435
Walton	502	632	12,454
Washington	849	733	14,062
Totals	38,205	37,279	$ 590,903

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	NATAL GRASS HAY.		
	ACRES.	TONS.	VALUE.
Alachua	12	8	$ 160
Baker			
Bay			
Bradford	132	122	2,467
Brevard			
Calhoun	6	9	180
Citrus			
Clay	2	3	60
Columbia	30	12	240
Dade			
DeSoto	52	100	1,830
Duval			
Escambia			
Franklin	24	56	345
Gadsden			
Hamilton			
Hernando			
Hillsboro			
Holmes			
Jackson	4,800	1,807	13,496
Jefferson	48	84	900
Lafayette			
Lake	1,061	354	6,938
Lee			
Leon	52	34	359
Levy	4	3	70
Liberty			
Madison			
Manatee			
Marion			
Monroe			
Nassau			
Orange	16	20	400
Osceola			
Palm Beach			
Pasco	10	8	150
Pinellas			
Polk	25	35	580
Putnam			
Santa Rosa	184	212	3,585
Seminole			
St. Johns	3	3	45
St. Lucie	3	5	150
Sumter	5	10	250
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	6,469	2,885	$ 32,205

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	RHODES GRASS HAY.		
	ACRES.	TONS.	VALUE.
Alachua			$
Baker			
Bay			
Bradford	2	5	100
Brevard	2	15	375
Calhoun			
Citrus			
Clay			
Columbia			
Dade	10	10	325
DeSoto	1	5	75
Duval			
Escambia			
Franklin			
Gadsden			
Hamilton			
Hernando	6	18	355
Hillsboro			
Holmes			
Jackson	4	4	40
Jefferson			
Lafayette			
Lake	5	4	80
Lee	1	1	30
Leon			
Levy			
Liberty			
Madison			
Manatee			
Marion			
Monroe			
Nassau			
Orange	2	2	37
Osceola	1	5	100
Palm Beach			
Pasco			
Pinellas	2	4	80
Polk	10	5	125
Putnam			
Santa Rosa			
Seminole			
St. Johns	1	3	75
St. Lucie	8	24	545
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	55	105	$ 2,342

*Not reported.

* TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	KUDZU HAY.		
	ACRES.	TONS.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard			
Calhoun			
Citrus			
Clay			
Columbia			
Dade			
DeSoto			
Duval			
Escambia			
Franklin			
Gadsden			
Hamilton			
Hernando			
Hillsboro			
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake	1	1	20
Lee			
Leon			
Levy			
Liberty			
Madison			
Manatee			
Marion			
Monroe			
Nassau			
Orange			
Osceola			
Palm Beach			
Pasco			
Pinellas			
Polk			
Putnam			
Santa Rosa	1	1	20
Seminole			
St. Johns			
St. Lucie			
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	2	2	$ 40

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	MILLET.		
	ACRES.	TONS.	VALUE.
Alachua	46	42	$ 860
Baker	6	12	240
Bay	....	....	....
Bradford	136	194	4,322
Brevard	....	....	....
Calhoun	....	....	....
Citrus	....	....	....
Clay	1	1	12
Columbia	....	....	....
Dade	74	144	2,612
DeSoto	....	....	....
Duval	6	6	125
Escambia	54	70	1,376
Franklin	....	....	....
Gadsden	....	....	....
Hamilton	1	2	40
Hernando	....	....	....
Hillsboro	....	....	....
Holmes	....	....	....
Jackson	7	7	140
Jefferson	7	18	108
Lafayette	5	10	50
Lake	1	1	25
Lee	4	4	100
Leon	44	760	1,820
Levy	....	....	....
Liberty	....	....	....
Madison	....	....	....
Manatee	2	2	50
Marion	....	....	....
Monroe	....	....	....
Nassau	2	5	50
Orange	5	7	175
Osceola	1	3	60
Palm Beach	....	....	....
Pasco	....	....	....
Pinellas	....	....	....
Polk	2	2	48
Putnam	5	5	100
Santa Rosa	10	36	861
Seminole	....	....	....
St. Johns	1	1	25
St. Lucie	3	9	330
Sumter	....	....	....
*Suwannee	....	....	....
Taylor	....	....	....
Volusia	4	9	100
Wakulla	....	....	....
Walton	5	6	91
Washington	....	....	....
Totals	432	1,356	$ 13,720

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	PEANUTS.		
	ACRES.	BUSHELS.	VALUE.
Alachua	9,958	266,309	$ 263,211
Baker	2,945	29,860	39,325
Bay	236	2,887	4,821
Bradford	8,046	99,612	99,613
Brevard	......	......	......
Calhoun	1,998	46,549	60,222
Citrus	1,257	19,879	25,986
Clay	63	623	818
Columbia	6,168	79,653	79,653
Dade	1	50	50
DeSoto	104	2,605	4,185
Duval	......	......	......
Escambia	285	6,317	9,283
Franklin	......	......	......
Gadsden	6,227	142,120	142,120
Hamilton	674	6,405	6,639
Hernando	302	9,060	8,365
Hillsboro	132	2,815	3,313
Holmes	5,172	79,104	120,211
Jackson	74,013	247,986	182,796
Jefferson	3,165	78,241	76,481
Lafayette	4,200	107,229	52,939
Lake	28	140	401
Lee	15	475	935
Leon	1,494	15,806	15,329
Levy	5,843	141,267	141,267
Liberty	967	12,313	19,886
Madison	8,359	198,905	214,593
Manatee	......	......	......
Marion	1,523	47,750	47,750
Monroe	......	......	......
Nassau	116	3,480	3,245
Orange	......	......	......
Osceola	8	338	871
Palm Beach	......	......	......
Pasco	370	4,617	8,596
Pinellas	......	......	......
Polk	185	3,194	5,880
Putnam	70	120	2,180
Santa Rosa	......	......	......
Seminole	......	......	......
St. Johns	55	4,340	5,071
St. Lucie	......	......	......
Sumter	2,390	27,950	27,243
*Suwannee	......	......	......
Taylor	2,229	44,580	44,580
Volusia	108	1,920	3,090
Wakulla	1,939	38,030	37,880
Walton	2,118	28,802	43,298
Washington	3,692	52,904	52,642
Totals	156,455	1,854.235	$ 1,854,771

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	TOBACCO, OPEN FIELD CULTURE.		
	ACRES.	POUNDS.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard			
Calhoun			
Citrus			
Clay			
Columbia			
Dade	1	1,200	1,200
DeSoto			
Duval			
Escambia	1	200	50
Franklin			
Gadsden	1,437	1,267,100	201,479
Hamilton			
Hernando			
Hillsboro			
Holmes			
Jackson			
Jefferson	53	1,489	1,489
Lafayette			
Lake			
Lee			
Leon	15	12,110	2,891
Levy	3	30	30
Liberty			
Madison	10	250	250
Manatee			
Marion			
Monroe			
Nassau			
Orange			
Osceola			
Palm Beach			
Pasco			
Pinellas			
Polk			
Putnam			
Santa Rosa			
Seminole			
St. Johns			
St. Lucie			
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington	9	840	790
Totals	1,529	1,283,169	$ 208,179

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	TOBACCO, GROWN UNDER SHADE.		
	ACRES.	POUNDS.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard			
Calhoun			
Citrus			
Clay			
Columbia			
Dade			
DeSoto			
Duval			
Escambia			
Franklin			
Gadsden	539	1,511,727	722,905
Hamilton			
Hernando			
Hillsboro			
Holmes			
Jackson			
Jefferson	85	2,550	2,550
Lafayette			
Lake			
Lee			
Leon	18	17,970	10,181
Levy			
Liberty			
Madison	51	118,000	57,960
Manatee			
Marion			
Monroe			
Nassau			
Orange			
Osceola			
Palm Beach			
Pasco	88	100,800	50,800
Pinellas			
Polk			
Putnam			
Santa Rosa			
Seminole			
St. Johns			
St. Lucie			
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	781	1,751,047	$ 844,396

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	WOOL (Spring Clip.)		
	No. Fleeces.	Pounds.	Value.
Alachua			$
Baker	320	1,000	250
Bay	2,741	9,030	3,250
Bradford	33	75	17
Brevard			
Calhoun			
Citrus			
Clay	975	2,450	458
Columbia			
Dade			
DeSoto	50	100	18
Duval			
Escambia	9,588	15,603	3,414
Franklin			
Gadsden	175	480	87
Hamilton			
Hernando			
Hillsboro			
Holmes	11,142	25,840	5,220
Jackson	2	110	18
Jefferson			
Lafayette			
Lake	225	600	105
Lee			
Leon			
Levy			
Liberty			
Madison			
Manatee	400	3,172	680
Marion	14,100	35,250	7,050
Monroe			
Nassau			
Orange			
Osceola	2,265	4,667	839
Palm Beach			
Pasco			
Pinellas			
Polk	1,450	4,350	898
Putnam			
Santa Rosa	15,241	42,199	8,493
Seminole			
St. Johns	900	3,200	820
St. Lucie			
Sumter	1,008	3,100	1,570
*Suwannee			
Taylor			
Volusia	3,515	16,220	4,715
Wakulla	221	670	316
Walton	17,081	53,295	12,391
Washington	2,430	6,905	1,562
Totals	83,862	228,216	$ 52,171

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	VELVET BEANS.		
	ACRES.	BUSHELS.	VALUE.
Alachua	2,320	49,591	$ 46,566
Baker	140	1,985	3,770
Bay	245	3,435	7,955
Bradford	3,488	22,994	46,176
Brevard	1	20	60
Calhoun	573	13,632	24,745
Citrus	1,220	6,118	21,703
Clay	258	1,278	3,739
Columbia	1,031	12,448	23,170
Dade	10	20	40
DeSoto	441	9,490	17,265
Duval	....	....	....
Escambia	57	626	1,969
Franklin	....	....	....
Gadsden	305	3,715	11,125
Hamilton	101	1,015	2,030
Hernando	184	1,840	2,665
Hillsboro	59	1,385	1,545
Holmes	4,445	73,188	146,376
Jackson	1,521	16,545	7,455
Jefferson	....	....	....
Lafayette	624	1,682	6,694
Lake	445	1,716	3,566
Lee	105	4,005	11,380
Leon	283	1,557	4,553
Levy	516	5,742	3,990
Liberty	66	650	1,195
Madison	518	3,789	19,795
Manatee	4	80	240
Marion	3,033	59,410	96,150
Monroe	....	....	....
Nassau	137	1,210	1,284
Orange	12	115	130
Osceola	18	472	1,544
Palm Beach	....	....	....
Pasco	656	9,757	19,358
Pinellas	16	123	350
Polk	292	2,715	5,141
Putnam	83	1,397	4,176
Santa Rosa	5,959	54,993	126,113
Seminole	5	100	300
St. Johns	9	450	338
St. Lucie	3	55	137
Sumter	957	9,126	13,364
*Suwannee	....	....	....
Taylor	....	....	....
Volusia	48	570	1,220
Wakulla	330	5,558	15,035
Walton	4,781	48,571	48,771
Washington	4,245	55,811	52,083
Totals	39,604	488,979	$ 805,261

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	TOBACCO, OPEN FIELD CULTURE.		
	ACRES.	POUNDS.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard			
Calhoun			
Citrus			
Clay			
Columbia			
Dade	1	1,200	1,200
DeSoto			
Duval			
Escambia	1	200	50
Franklin			
Gadsden	1,437	1,267,100	201,479
Hamilton			
Hernando			
Hillsboro			
Holmes			
Jackson			
Jefferson	53	1,489	1,489
Lafayette			
Lake			
Lee			
Leon	15	12,110	2,891
Levy	3	30	30
Liberty			
Madison	10	250	250
Manatee			
Marion			
Monroe			
Nassau			
Orange			
Osceola			
Palm Beach			
Pasco			
Pinellas			
Polk			
Putnam			
Santa Rosa			
Seminole			
St. Johns			
St. Lucie			
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington	9	840	790
Totals	1,529	1,283,169	$ 208,179

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	TOBACCO, GROWN UNDER SHADE.		
	ACRES.	POUNDS.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard			
Calhoun			
Citrus			
Clay			
Columbia			
Dade			
DeSoto			
Duval			
Escambia			
Franklin			
Gadsden	539	1,511,727	722,905
Hamilton			
Hernando			
Hillsboro			
Holmes			
Jackson			
Jefferson	85	2,550	2,550
Lafayette			
Lake			
Lee			
Leon	18	17,970	10,181
Levy			
Liberty			
Madison	51	118,000	57,960
Manatee			
Marion			
Monroe			
Nassau			
Orange			
Osceola			
Palm Beach			
Pasco	88	100,800	50,800
Pinellas			
Polk			
Putnam			
Santa Rosa			
Seminole			
St. Johns			
St. Lucie			
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	781	1,751,047	$ 844,396

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	WOOL (Spring Clip.)		
	No. Fleeces.	Pounds.	Value.
Alachua			$
Baker	320	1,000	250
Bay	2,741	9,030	3,250
Bradford	33	75	17
Brevard			
Calhoun			
Citrus			
Clay	975	2.450	458
Columbia			
Dade			
DeSoto	50	100	18
Duval			
Escambia	9,588	15,603	3,414
Franklin			
Gadsden	175	480	87
Hamilton			
Hernando			
Hillsboro			
Holmes	11,142	25,840	5,220
Jackson	2	110	18
Jefferson			
Lafayette			
Lake	225	600	105
Lee			
Leon			
Levy			
Liberty			
Madison			
Manatee	406	3,172	680
Marion	14,100	35,250	7,050
Monroe			
Nassau			
Orange			
Osceola	2,265	4,667	839
Palm Beach			
Pasco			
Pinellas			
Polk	1,450	4.350	898
Putnam			
Santa Rosa	15,241	42,199	8,493
Seminole			
St. Johns	900	3,200	820
St. Lucie			
Sumter	1,008	3,100	1,570
*Suwannee			
Taylor			
Volusia	3,515	16,220	4,715
Wakulla	221	670	316
Walton	17,081	53,295	12,391
Washington	2,430	6,905	1,562
Totals	83,862	228,216	$ 52,171

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	VELVET BEANS.		
	ACRES.	BUSHELS.	VALUE.
Alachua	2,320	49,591	$ 46,566
Baker	140	1,985	3,770
Bay	245	3,435	7,955
Bradford	3,488	22,994	46,176
Brevard	1	20	60
Calhoun	573	13,632	24,745
Citrus	1,220	6,118	21,703
Clay	258	1,278	3,739
Columbia	1,031	12,448	23,170
Dade	10	20	40
DeSoto	441	9,490	17,265
Duval	....	....	....
Escambia	57	626	1,969
Franklin	....	....	....
Gadsden	305	3,715	11,125
Hamilton	101	1,015	2,030
Hernando	184	1,840	2,665
Hillsboro	59	1,385	1,545
Holmes	4,445	73,188	146,376
Jackson	1,521	16,545	7,455
Jefferson	....	....	....
Lafayette	624	1,682	6,694
Lake	445	1,716	3,566
Lee	105	4,005	11,380
Leon	283	1,557	4,553
Levy	516	5,742	3,990
Liberty	66	650	1,195
Madison	518	3,789	19,795
Manatee	4	80	240
Marion	3,033	59,410	96,150
Monroe	....	....	....
Nassau	137	1,210	1,284
Orange	12	115	130
Osceola	18	472	1,544
Palm Beach	....	....	....
Pasco	656	9,757	19,358
Pinellas	16	123	350
Polk	292	2,715	5,141
Putnam	83	1,397	4,176
Santa Rosa	5,959	54,993	126,113
Seminole	5	100	300
St. Johns	9	450	338
St. Lucie	3	55	137
Sumter	957	9,126	13,364
*Suwannee	....	....	....
Taylor	....	....	....
Volusia	48	570	1,220
Wakulla	330	5,558	15,035
Walton	4,781	48,571	48,771
Washington	4,245	55,811	52,083
Totals	39,604	488,979	$ 805,261

INCORRECT PAGINATION

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	VELVET BEAN HAY.		
	ACRES.	TONS.	VALUE.
Alachua			$
Baker			
Bay	2	5	125
Bradford			
Brevard			
Calhoun	33	21	378
Citrus			
Clay	2	3	60
Columbia			
Dade	290	298	4,130
DeSoto	11	32	640
Duval	9	214	1,030
Escambia	1,988	2,769	54,548
Franklin			
Gadsden	22	21	420
Hamilton			
Hernando			
Hillsboro	5	7	140
Holmes	5	5	75
Jackson	2	1	20
Jefferson	10	120	150
Lafayette			
Lake	57	147	493
Lee	1	1	25
Leon	65	105	1,575
Levy	2	2	40
Liberty			
Madison			
Manatee			
Marion			
Monroe			
Nassau	27	31	645
Orange	5	5	130
Osceola	7	16	320
Palm Beach	2	2	50
Pasco	18	57	440
Pinellas	1	7	140
Polk	51	35	865
Putnam	152	563	6,285
Santa Rosa	29	27	496
Seminole	1	5	125
St. Johns			
St. Lucie	3	4	100
Sumter			
*Suwannee			
Taylor			
Volusia	433	186	3,720
Wakulla			
Walton	33	86	1,718
Washington	14	10	154
Totals	3,280	4,785	$ 79,037

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	RYE.		
	ACRES.	BUSHELS.	VALUE.
Alachua	2	13	$ 36
Baker	....	....	....
Bay	....	....	....
Bradford	83	710	860
Brevard	....	....	....
Calhoun	....	....	....
Citrus	....	....	....
Clay	....	....	....
Columbia	5	35	100
Dade	....	....	....
DeSoto	....	....	....
Duval	....	....	....
Escambia	....	....	....
Franklin	....	....	....
Gadsden	....	....	....
Hamilton	....	....	....
Hernando	....	....	....
Hillsboro	....	....	....
Holmes	....	....	....
Jackson	....	....	....
Jefferson	....	....	....
Lafayette	....	....	....
Lake	3	30	60
Lee	....	....	....
Leon	50	100	300
Levy	....	....	....
Liberty	....	....	....
Madison	464	3,087	4,356
Manatee	....	....	....
Marion	81	452	1,337
Monroe	....	....	....
Nassau	....	....	....
Orange	....	....	....
Osceola	....	....	....
Palm Beach	....	....	....
Pasco	1	20	20
Pinellas	....	....	....
Polk	5	25	50
Putnam	....	....	....
Santa Rosa	10	100	150
Seminole	....	....	....
St Johns	....	....	....
St. Lucie	....	....	....
Sumter	....	....	....
*Suwannee	....	....	....
Taylor	....	....	....
Volusia	....	....	....
Wakulla	....	....	....
Walton	....	....	....
Washington	....	....	....
Totals	704	4,572	$ 7,269

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	CASSAVA.		
	ACRES.	TONS.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard			
Calhoun			
Citrus	11	6	25
Clay			
Columbia			
Dade	3	4	80
DeSoto			
Duval			
Escambia	3	3	60
Franklin			
Gadsden			
Hamilton			
Hernando			
Hillsboro	13	21	480
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake	9	38	357
Lee	1	2	50
Leon			
Levy			
Liberty			
Madison			
Manatee			
Marion	55	210	920
Monroe			
Nassau			
Orange			
Osceola	1	6	90
Palm Beach			
Pasco			
Pinellas			
Polk	18	123	537
Putnam	11	90	540
Santa Rosa			
Seminole			
St Johns	1	2	50
St. Lucie			
Sumter	6	4	120
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	132	509	$ 3,309

*Not reported.

TABLE No. 1—FIELD CROPS, 1913-14.—*Continued.*

COUNTIES.	ALFALFA (Lucerne.)		
	ACRES.	TONS.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard			
Calhoun			
Citrus			
Clay			
Columbia			
Dade	8	34	690
DeSoto			
Duval			
Escambia			
Franklin			
Gadsden			
Hamilton			
Hernando			
Hillsboro			
Holmes			
Jackson			
Jefferson	3	7	140
Lafayette			
Lake			
Lee	1	1	40
Leon			
Levy			
Liberty			
Madison			
Manatee			
Marion			
Monroe			
Nassau			
Orange			
Osceola			
Palm Beach			
Pasco			
Pinellas			
Polk			
Putnam			
Santa Rosa			
Seminole			
St. Johns			
St. Lucie	1	6	210
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	13	48	$ 1,080

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.

COUNTIES.	ONIONS.		
	ACRES.	CRATES.	VALUE.
Alachua			$
Baker			
Bay	14	1,301	1,304
Bradford	6	375	352
Brevard	1	216	660
Calhoun			
Citrus	5	330	460
Clay	7	255	416
Columbia			
Dade	9	550	2,425
DeSoto	1	85	160
Duval	23	1,749	3,579
Escambia	3	308	461
Franklin	56	11,100	22,200
Gadsden			
Hamilton	1	60	60
Hernando	2	175	190
Hillsboro	6	1,226	1,491
Holmes			
Jackson			
Jefferson			
Lafayette	1	94	140
Lake	17	1,314	2,505
Lee	4	230	365
Leon			
Levy	1	85	95
Liberty			
Madison			
Manatee	2	525	550
Marion	45	6,500	6.600
Monroe	38	9,196	11,317
Nassau	2	150	220
Orange	7	415	742
Osceola	3	476	851
Palm Beach	7	1.137	1,739
Pasco	6	138	218
Pinellas	6	515	807
Polk	12	253	1,134
Putnam	7	490	890
Santa Rosa	9	1,140	1.177
Seminole	3	175	390
St. Johns	64	18,645	27,966
St. Lucie	1	470	985
Sumter	30	3,000	3,038
*Suwannee			
Taylor			
Volusia	35	4,905	6,394
Wakulla			
Walton	1	12	80
Washington	1	24	60
Totals	436	67,539	$ 102,021

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	LETTUCE.		
	ACRES.	CRATES.	VALUE.
Alachua	392	49,310	$ 24,250
Baker			
Bay			
Bradford	1	10	10
Brevard	3	375	450
Calhoun			
Citrus	1	20	40
Clay	2	265	430
Columbia			
Dade	3	1,220	3,270
DeSoto	1	200	100
Duval	13	703	1,735
Escambia	1	255	255
Franklin	31	1,240	1,240
Gadsden			
Hamilton			
Hernando			
Hillsboro	10	1,860	1,815
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake	28	5,091	5,673
Lee	1	110	170
Leon			
Levy			
Liberty			
Madison			
Manatee	673	220,171	164,760
Marion	804	84,260	66,960
Monroe	15	304	606
Nassau	1	50	110
Orange	148	55,105	62,203
Osceola	3	975	525
Palm Beach	3	499	821
Pasco			
Pinellas	5	485	485
Polk	1	205	625
Putnam	1	175	315
Santa Rosa			
Seminole	596	279,055	246,590
St. Johns			
St. Lucie	1	375	350
Sumter	100	2,040	11,836
*Suwannee			
Taylor			
Volusia	28	7,225	7,505
Wakulla			
Walton			
Washington			
Totals	2,866	711,583	$ 603,729

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	CELERY.		
	ACRES.	CRATES.	VALUE.
Alachua	....	....	$............
Baker	....	....	....
Bay	....	....	....
Bradford	....	....	....
Brevard	1	75	150
Calhoun	....	....	....
Citrus	....	....	....
Clay	....	....	....
Columbia	....	....	....
Dade	1	900	1,750
DeSoto	....	....	....
Duval	1	20	60
Escambia	....	....	....
Franklin	4	180	360
Gadsden	....	....	....
Hamilton	....	....	....
Hernando	....	....	....
Hillsboro	117	48,996	52,541
Holmes	....	....	....
Jackson	....	....	....
Jefferson	....	....	....
Lafayette	....	....	....
Lake	8	663	728
Lee	....	....	....
Leon	....	....	....
Levy	....	....	....
Liberty	....	....	....
Madison	....	....	....
Manatee	430	219,248	254,530
Marion	....	....	....
Monroe	....	....	....
Nassau	....	....	....
Orange	2	1,500	1,650
Osceola	5	2,120	2,520
Palm Beach	1	319	628
Pasco	....	....	....
Pinellas	....	....	....
Polk	10	6,900	8,550
Putnam	1	800	1,000
Santa Rosa	....	....	....
Seminole	676	506,350	565,150
St. Johns	1	23	50
St. Lucie	....	....	....
Sumter	3	700	640
*Suwannee	....	....	....
Taylor	....	....	....
Volusia	19	11,895	14,405
Wakulla	....	....	....
Walton	....	....	....
Washington	....	....	....
Totals	1,280	800,689	$ 904,712

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	PEPPER.		
	ACRES.	CRATES.	VALUE.
Alachua	39	11,054	$ 21,312
Baker	....	....	....
Bay	....	....	....
Bradford	2	95	93
Brevard	4	1,030	1,035
Calhoun	....	....	....
Citrus	1	25	40
Clay	1	20	10
Columbia	....	....	....
Dade	260	78,663	105,702
DeSoto	44	6,390	9,960
Duval	8	910	921
Escambia	1	75	125
Franklin	3	280	420
Gadsden	....	....	....
Hamilton	....	....	....
Hernando	5	200	450
Hillsboro	28	3,485	3,450
Holmes	....	....	....
Jackson	....	....	....
Jefferson	....	....	....
Lafayette	....	....	....
Lake	6	1,093	1,965
Lee	165	60,545	116,700
Leon	....	....	....
Levy	....	....	....
Liberty	....	....	....
Madison	....	....	....
Manatee	111	38,091	38,160
Marion	36	4,010	4,430
Monroe	38	5,663	2,127
Nassau	....	....	....
Orange	22	5,700	6,390
Osceola	1	115	175
Palm Beach	603	203,857	224,958
Pasco	....	....	....
Pinellas	....	....	....
Polk	2	1,100	1,610
Putnam	....	....	....
Santa Rosa	....	....	....
Seminole	125	42,585	40,465
St. Johns	....	....	....
St. Lucie	1	420	550
Sumter	2	50	75
*Suwannee	....	....	....
Taylor	....	....	....
Volusia	1	260	305
Wakulla	....	....	....
Walton	....	....	....
Washington	....	....	....
Totals	1,509	465,715	$ 581,428

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	IRISH POTATOES.		
	ACRES.	BUSHELS.	VALUE
Alachua	112	4,793	$ 4,942
Baker	62	4,430	4,600
Bay	25	1,688	2,975
Bradford	235	18,893	17,136
Brevard	68	7,845	11,155
Calhoun	......	......	......
Citrus	21	1,153	1,764
Clay	289	19.786	28,786
Columbia	102	7,514	7,514
Dade	572	78,144	110,142
DeSoto	182	11,486	13,052
Duval	398	29,486	38,998
Escambia	46	2,923	2,866
Franklin	91	18,140	36,200
Gadsden	......	......	......
Hamilton	1	75	50
Hernando	2	150	150
Hillsboro	294	31,985	34,106
Holmes	3	180	270
Jackson	......	......	......
Jefferson	2	102	104
Lafayette	1	30	52
Lake	106	5,780	7.004
Lee	19	2,915	3.925
Leon	8	380	272
Levy	29	1,771	1.828
Liberty	1	20	38
Madison	......	......	......
Manatee	23	1,845	2,740
Marion	......	......	......
Monroe	......	......	......
Nassau	135	7,852	8,292
Orange	56	4.000	5,875
Osceola	76	6,372	9,588
Palm Beach	104	15.668	24,298
Pasco	66	4.024	4,291
Pinellas	48	4,665	7,040
Polk	115	12.802	16,487
Putnam	2.236	223,511	252,519
Santa Rosa	20	2,605	3,179
Seminole	99	14.170	14,320
St. Johns	11,569	1,308.159	1,556.034
St. Lucie	69	7,024	13,102
Sumter	64	3,627	3.980
*Suwannee	......	......	......
Taylor	2	105	120
Volusia	757	70,690	92,030
Wakulla	5	31	56
Walton	9	498	624
Washington	5	375	738
Totals	18.077	1,937,692	$ 2,343.242

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	CABBAGE.		
	ACRES.	CRATES.	VALUE.
Alachua	1,484	73,730	$ 46,535
Baker	......	......	......
Bay	6	701	1,402
Bradford	3	125	80
Brevard	5	790	1,390
Calhoun	......	......	......
Citrus	73	2,968	2.600
Clay	8	988	1,160
Columbia	3	110	270
Dade	129	23.252	27,104
DeSoto	103	10.315	11,325
Duval	134	9.040	15,394
Escambia	35	2,900	4,408
Franklin	63	12,650	25,300
Gadsden	......	......	......
Hamilton	3	330	400
Hernando	6	140	150
Hillsboro	78	17,026	16.854
Holmes	1	100	225
Jackson	1	50	200
Jefferson	1	50	20
Lafayette	......	......	......
Lake	358	27,249	19,890
Lee	10	990	1,020
Leon	1	10	15
Levy	98	11,133	6,876
Liberty	1	50	100
Madison	......	......	......
Manatee	296	31,239	18,878
Marion	501	38.600	30,000
Monroe	48	4.471	11,881
Nassau	28	100	180
Orange	43	2,095	1,900
Osceola	28	3.983	2,271
Palm Beach	46	9.175	14,806
Pasco	24	1.005	980
Pinellas	19	1.244	1,249
Polk	91	22.968	28,221
Putnam	10	735	1,180
Santa Rosa	20	1,954	2,969
Seminole	194	24.475	16,450
St. Johns	206	56,177	61,811
St. Lucie	3	450	665
Sumter	1,315	132,455	78,939
*Suwannee	......	......	......
Taylor	......	......	......
Volusia	183	18,745	20.465
Wakulla	......	......	......
Walton	1	12	25
Washington	5	752	1.077
Totals	5,665	545,332	$ 476,565

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14. *Continued.*

COUNTIES.	TOMATOES.		
	ACRES.	CRATES.	VALUE.
Alachua	203	9,209	$ 7,246
Baker	....	....	....
Bay	1	97	60
Bradford	123	5,709	3,012
Brevard	39	8,060	10,400
Calhoun	....	....	....
Citrus	92	4,658	4,344
Clay	8	575	695
Columbia	2	60	120
Dade	9,392	1,567,995	1,892,059
DeSoto	327	23,879	22,476
Duval	140	13,619	19,279
Escambia	5	957	1,324
Franklin	46	9,200	18,400
Gadsden	....	....	....
Hamilton	....	....	....
Hernando	19	595	745
Hillsboro	766	113,082	102,992
Holmes	1	50	75
Jackson	....	....	....
Jefferson	....	....	....
Lafayette	1	10	20
Lake	591	19,552	16,611
Lee	378	96,255	192,735
Leon	4	620	1,220
Levy	20	720	532
Liberty	....	....	....
Madison	1	35	57
Manatee	2,082	328,422	320,200
Marion	1,254	75,740	62,600
Monroe	47	6,899	16,505
Nassau	2	160	175
Orange	343	35,048	46,144
Osceola	5	710	933
Palm Beach	1,663	969,239	2,265,618
Pasco	73	3,848	2,280
Pinellas	8	730	1,000
Polk	266	21,474	20,887
Putnam	23	1,545	2,815
Santa Rosa	6	2.394	821
Seminole	107	29,595	28,520
St. Johns	133	24,851	28,667
St. Lucie	709	38,419	48,434
Sumter	5,377	194,520	99,041
*Suwannee	....	....	....
Taylor	....	....	....
Volusia	83	9.845	10,215
Wakulla	....	....	....
Walton	1	788	873
Washington	2	61	91
Totals	24,343	3,619,225	$ 5,245,221

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	SQUASHES.		
	ACRES.	CRATES.	VALUE.
Alachua	18	4,983	$ 2,550
Baker			
Bay	1	152	76
Bradford	20	588	190
Brevard			
Calhoun			
Citrus	1	14	25
Clay			
Columbia			
Dade	106	25,176	26,378
DeSoto	3	292	270
Duval	1	40	60
Escambia	1	87	117
Franklin	26	2,100	2,100
Gadsden			
Hamilton	1	150	66
Hernando	1	50	50
Hillsboro	4	275	281
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake	46	2,782	2,186
Lee	9	2,930	5,090
Leon			
Levy	2	160	10
Liberty			
Madison			
Manatee	8	844	812
Marion	154	18,600	10,800
Monroe			
Nassau			
Orange			
Osceola	1	100	15
Palm Beach	9	1,762	2,627
Pasco			
Pinellas			
Polk	12	735	853
Putnam	1	20	20
Santa Rosa			
Seminole	17	4,240	3,930
St. Johns	1	395	320
St. Lucie	2	500	750
Sumter	10	910	371
*Suwannee			
Taylor			
Volusia	6	1,110	1,090
Wakulla			
Walton			
Washington			
Totals	461	68,995	$ 61,037

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14. *Continued.*

COUNTIES.	EGG PLANTS.		
	ACRES.	CRATES.	VALUE.
Alachua	24	2,495	$ 3,550
Baker			
Bay	1	50	25
Bradford			
Brevard	4	575	475
Calhoun			
Citrus	7	279	345
Clay			
Columbia			
Dade	262	70,032	84.716
DeSoto	21	3,115	4,805
Duval	1	120	140
Escambia	1	10	15
Franklin	14	1,160	1,160
Gadsden			
Hamilton			
Hernando	4	200	200
Hillsboro	24	3,725	3,705
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake	6	631	878
Lee	95	25,950	58,390
Leon			
Levy	10	1,400	1,460
Liberty			
Madison			
Manatee	29	12,258	13,226
Marion	56	7,350	9,450
Monroe	26	2,648	5,604
Nassau			
Orange			
Osceola	27	6,875	7,295
Palm Beach	47	6,257	13,967
Pasco	3	152	154
Pinellas	1	135	235
Polk	7	925	935
Putnam	1	15	60
Santa Rosa	1	45	20
Seminole	17	4,850	4,450
St. Johns			
St. Lucie	2	320	455
Sumter	7	320	385
*Suwannee			
Taylor			
Volusia	6	990	1,130
Wakulla			
Walton			
Washington			
Totals	704	152,882	$ 217,230

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	CUCUMBERS.		
	ACRES.	CRATES.	VALUE.
Alachua	379	46,354	$ 25,245
Baker			
Bay			
Bradford	104	13,366	1,542
Brevard	8	2,150	2,387
Calhoun			
Citrus	60	1,222	2,867
Clay	3	330	560
Columbia	6	205	380
Dade	99	12,257	23,280
DeSoto	293	30,333	30,266
Duval	3	195	470
Escambia	5	245	213
Franklin	24	1,900	1,900
Gadsden			
Hamilton			
Hernando	12	760	1,090
Hillsboro	142	30,442	30,972
Holmes			
Jackson			
Jefferson			
Lafayette	7	1,005	300
Lake	96	19,807	12,146
Lee	9	3,210	6,110
Leon			
Levy	1,686	165,516	58,354
Liberty			
Madison			
Manatee	15	1,905	2,220
Marion	169	20,800	15,800
Monroe			
Nassau			
Orange	106	20,835	18,676
Osceola	1	130	130
Palm Beach	9	2,219	3,179
Pasco	19	1,400	670
Pinellas	4	525	1,205
Polk	17	1,345	1,815
Putnam	12	920	970
Santa Rosa			
Seminole	52	9,026	6,655
St. Johns	90	22,093	22,833
St. Lucie	3	540	840
Sumter	1,274	170,782	140,151
*Suwannee			
Taylor	1	25	25
Volusia	20	2,955	3,855
Wakulla			
Walton			
Washington			
Totals	4,728	584,797	$ 416,606

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	WATERMELONS.		
	ACRES.	CARLOADS.	VALUE.
Alachua	1,014	507	$ 32,830
Baker	....	....	....
Bay	33	26	1,980
Bradford	621	172	5,932
Brevard	43	18	4,885
Calhoun	85	44	4,520
Citrus	464	146	12,391
Clay	55	32	2,440
Columbia	86	136	8,400
Dade	45	50	4,047
DeSoto	669	222	33,240
Duval	40	62	5,100
Escambia	114	115	14,523
Franklin	88	175	5,265
Gadsden	....	....	....
Hamilton	48	19	1,300
Hernando	72	74	6,700
Hillsboro	121	74	6,821
Holmes	61	26	1,840
Jackson	605	225	14,540
Jefferson	236	90	6,920
Lafayette	283	132	1,085
Lake	2,934	684	65,462
Lee	33	15	2,950
Leon	104	34	1,275
Levy	223	44	1,825
Liberty	2	1	125
Madison	158	69	6,622
Manatee	8	6	460
Marion	7,065	2,351	117,550
Monroe	29	35	3,402
Nassau	66	68	2,427
Orange	128	41	2,804
Osceola	23	15	1,675
Palm Beach	5	6	850
Pasco	67	36	1,580
Pinellas	60	37	3,805
Polk	258	282	26,155
Putnam	288	365	22,260
Santa Rosa	76	79	6,671
Seminole	28	18	3,475
St. Johns	326	351	19,008
St. Lucie	19	9	1,815
Sumter	1,890	413	24,023
*Suwannee	....	....	....
Taylor	4	3	225
Volusia	341	130	19,600
Wakulla	6	6	285
Walton	6	7	490
Washington	63	24	1,810
Totals	18,993	7,474	$ 513,388

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	CANTALOUPES.		
	ACRES.	CRATES.	VALUE.
Alachua	95	6,080	$ 5,180
Baker			
Bay			
Bradord	78	1,865	1,855
Brevard			
Calhoun			
Citrus	61	800	525
Clay	1	5	10
Columbia			
Dade	2	150	150
DeSoto			
Duval			
Escambia	10	755	1,329
Franklin	42	8,350	16,700
Gadsden			
Hamilton			
Hernando			
Hillsboro	1	100	100
Holmes			
Jackson			
Jefferson			
Lafayette	1	15	15
Lake	5	80	120
Lee			
Leon	1	4	17
Levy			
Liberty			
Madison			
Manatee			
Marion	3,750	227,800	185,150
Monroe			
Nassau			
Orange			
Osceola	1	10	30
Palm Beach	1	30	50
Pasco	8	215	185
Pinellas	1	100	103
Polk	3	195	275
Putnam	5	160	280
Santa Rosa			
Seminole			
St. Johns	15	3,395	4,794
St. Lucie			
Sumter	18	542	655
*Suwannee			
Taylor			
Volusia	150	3,810	3,810
Wakulla			
Walton	1	50	125
Washington	1	12	22
Totals	4,250	254,523	$ 221,550

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	ENGLISH PEAS.		
	ACRES.	CRATES.	VALUE.
Alachua	112	6,332	$ 9,456
Baker			
Bay			
Bradford	2	133	170
Brevard	1	100	275
Calhoun			
Citrus	1	5	15
Clay	1	40	65
Columbia	24	550	1,100
Dade	1	55	300
DeSoto	42	1,203	5,771
Duval	8	505	1,110
Escambia	1	91	119
Franklin	22	1,780	3,560
Gadsden			
Hamilton			
Hernando	4	250	200
Hillsboro			
Holmes			
Jackson	4	4	40
Jefferson			
Lafayette			
Lake	74	2,057	5,405
Lee			
Leon			
Levy	2	80	160
Liberty			
Madison			
Manatee	2	23	71
Marion			
Monroe			
Nassau	1	30	100
Orange			
Osceola			
Palm Beach	1	195	497
Pasco	10	135	280
Pinellas	2	175	275
Polk	2	105	165
Putnam	4	120	485
Santa Rosa	1	120	58
Seminole	6	250	500
St. Johns			
St. Lucie	4	400	1,000
Sumter	34	1,015	1,805
*Suwannee			
Taylor			
Volusia	6	250	525
Wakulla			
Walton	6	160	85
Washington			
Totals	378	16,163	$ 33,592

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.

Continued.

COUNTIES.	BEETS.		
	ACRES.	CRATES.	VALUE.
Alachua	45	2,925	$ 8,050
Baker			
Bay			
Bradford	11	173	25
Brevard	1	100	100
Calhoun			
Citrus			
Clay	1	310	685
Columbia			
Dade	3	1,500	2,300
DeSoto			
Duval	16	1,622	2,634
Escambia	5	388	395
Franklin	30	5,950	11,900
Gadsden			
Hamilton			
Hernando			
Hillsboro	2	620	615
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake	2	76	193
Lee	1	55	90
Leon			
Levy	1	30	50
Liberty			
Madison			
Manatee			
Marion	48	6,200	4,850
Monroe			
Nassau			
Orange			
Osceola	1	160	225
Palm Beach	3	537	774
Pasco			
Pinellas	3	290	320
Polk	1	120	120
Putnam	1	35	65
Santa Rosa	1	30	15
Seminole	16	3,475	3,300
St. Johns			
St. Lucie			
Sumter			
*Suwannee			
Taylor			
Volusia	4	590	510
Wakulla			
Walton			
Washington			
Totals	196	25,186	$ 37,216

*Not reported.

TABLE No. 2—VEGETABLE AND GARDEN PRODUCTS, 1913-14.
Continued.

COUNTIES.	BEANS.		
	ACRES.	CRATES.	VALUE.
Alachua	393	42,101	$ 18,492
Baker			
Bay	8	708	380
Bradford	278	12,797	5,006
Brevard	71	7,795	15,740
Calhoun			
Citrus	20	490	358
Clay	9	377	437
Columbia	2	26	65
Dade	696	109,548	205,567
DeSoto	791	78,530	97,993
Duval	39	4,362	9,913
Escambia	9	885	995
Franklin	39	7,800	15,600
Gadsden			
Hamilton			
Hernando	34	4,425	4,650
Hillsboro	388	48,959	47,546
Holmes	1	75	100
Jackson			
Jefferson			
Lafayette	10	280	71
Lake	218	10,349	10,413
Lee	4	230	362
Leon			
Levy	82	3,781	2,024
Liberty			
Madison			
Manatee	92	4,916	5,926
Marion	1,160	68,800	49,600
Monroe			
Nassau	2	62	85
Orange	22	1,828	2,930
Osceola	18	1,844	3,574
Palm Beach	911	250,265	756,460
Pasco	377	3,285	3,637
Pinellas	4	420	635
Polk	205	18,396	18,457
Putnam	115	7,138	10,134
Santa Rosa			
Seminole	230	37,575	30,155
St. Johns	62	7,087	9,693
St. Lucie	536	49,087	54,201
Sumter	914	48,088	46,328
*Suwannee			
Taylor			
Volusia	8	650	840
Wakulla			
Walton			
Washington			
Totals	7,728	832,959	$ 1.428,367

*Not reported.

TABLE No. 3—FRUIT PRODUCTS.

COUNTIES.	ORANGES.			
	BEARING TREES.	NON-BEARING.	NO. OF CRATES.	$ VALUE.
Alachua	6,001	372	59,409	$ 77,598
Baker	2,700	395,000	6,350	24.155
Bay	1,864	11,481	2.476	5,053
Bradford	5,633	2,317	6,708	12,290
Brevard	189,069	119,514	410.865	401,797
Calhoun	2,213	24.093	3,958	11,060
Citrus	9,660	30,986	26,723	58,412
Clay	4,025	1,774	4.211	6.865
Columbia	1,158	766	2,248	4.113
Dade	48,854	26.064	97,670	128.613
DeSoto	198,293	168,861	1,036.649	929,105
Duval	5,541	3.066	5,488	23,048
Escambia	433	6,826	363	771
Franklin	1,984	2,017	5,952	17,856
Gadsden	....	....	....	....
Hamilton	....	....	....	....
Hernando	6,469	10,698	16.155	17,195
Hillsboro	169,542	316,380	548,324	623,427
Holmes	13	54	13	29
Jackson	42	35	27	44
Jefferson	111	214	161	308
Lafayette	174	189	761	1,610
Lake	314,830	158,493	516,263	530,455
Lee	48,663	3,114	62,540	67,850
Leon	43	6	53	114
Levy	3,994	1,433	4,640	6,360
Liberty	288	154	215	9,581
Madison	....	....	....	....
Manatee	106,485	30,566	227,459	198,872
Marion	117,900	9,100	281,300	281,300
Monroe	3,154	2,580	1,549	3,649
Nassau	493	3,542	....	....
Orange	358,141	108,625	659,985	670,027
Osceola	62,170	50,500	148.819	129,997
Palm Beach	68,812	39,915	78,868	141.640
Pasco	42,836	34,075	101,652	102.823
Pinellas	116,579	48,137	220,505	219.072
Polk	224,469	344.252	472.717	1,017,506
Putnam	191,532	30,944	321,056	359,167
Santa Rosa	1,858	7,923	479	1,850
Seminole	200,790	7,465	500,893	434,898
St. Johns	65,309	6,860	158,741	309.513
St. Lucie	47,806	250,070	62,991	77,262
Sumter	53,365	10,576	91,163	91,163
*Suwannee	....	....	....	....
Taylor	48	87	321	313
Volusia	540,925	145,040	518,410	518,410
Wakulla	87	287	277	834
Walton	1,280	7,795	312	1,150
Washington	82	1.027	133	307
Totals	3,225.718	2,423,273	6.665,852	7,517,462

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	LEMONS.			
	BEARING TREES.	NON-BEARING.	NO. OF CRATES.	VALUE.
Alachua	....	....	....	$........
Baker	280	2,000	348	1,700
Bay	36	844	33	98
Bradford	3	17	6	13
Brevard	27	20	45	70
Calhoun	11	87	4	12
Citrus	292	50	65	536
Clay	4	15	7	31
Columbia	3	....	6	12
Dade	1,414	1,412	1,725	3,641
DeSoto	51	65,563	207	339
Duval	....	....	....	....
Escamba	4	24	3	13
Franklin	217	107	83	415
Gadsden	....	....	....	....
Hamilton	....	....	....	....
Hernando	....	....	....	....
Hillsboro	212	730	384	954
Holmes	....	....	....	....
Jackson	....	....	....	....
Jefferson	2	31	36	....
Lafayette	....	....	....	....
Lake	466	240	565	1,260
Lee	270	628	244	5,313
Leon	....	....	....	....
Levy	3	6	12	28
Liberty	13	7	....	....
Madison	....	....	....	....
Manatee	1,073	710	3,075	9,210
Marion	....	....	....	....
Monroe	8,131	740	6,030	6,035
Nassau	26	54	10	52
Orange	4	6	6	16
Osceola	305	2,267	372	810
Palm Beach	2,422	4,517	3,883	5,770
Pasco	291	475	438	632
Pinellas	4	301	4	17
Polk	525	93,244	800	18,030
Putnam	....	....	....	....
Santa Rosa	9	5	5	22
Seminole	5	150	10	10
St. Johns	....	....	....	....
St. Lucie	585	1,273	297	837
Sumter	5	10	10	15
*Suwannee	....	....	....	....
Taylor	....	....	....	....
Volusia	....	....	....	....
Wakulla	....	....	....	....
Walton	2	425	1	2
Washington	....	....	....	....
Totals	16,696	175,958	18,712	$ 55,887

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	LIMES.		
	TREES.	CRATES.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard	50	54	81
Calhoun			
Citrus	2	4	12
Clay			
Columbia			
Dade	43,056	12,418	29,198
DeSoto	100	50	40
Duval			
Escambia			
Franklin			
Gadsden			
Hamilton			
Hernando			
Hillsboro	166	29	69
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake	498	173	470
Lee	350	203	2,559
Leon			
Levy	3	6	6
Liberty			
Madison			
Manatee	15	25	80
Marion			
Monroe	9,540	36,832	59,368
Nassau			
Orange			
Osceola	10	12	25
Palm Beach	4,000	3,837	5,350
Pasco	15	60	67
Pinellas			
Polk			
Putnam			
Santa Rosa			
Seminole			
St. Johns			
St. Lucie	45	281	889
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	57,850	53,984	$ 98,214

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	GRAPEFRUIT.			
	BEARING TREES.	NON-BEARING.	NO. OF CRATES.	VALUE.
Alachua	146	....	2,920	$ 5,840
Baker	100	60,000	100	250
Bay	28	1,808	55	116
Bradford	31	38	93	188
Brevard	53,394	30,644	97,061	149,688
Calhoun	175	443	322	967
Citrus	871	2,922	1,426	20,122
Clay	91	73	360	7,340
Columbia	....	....	....	....
Dade	188,721	374,146	412,660	780,590
DeSoto	92,194	72,752	246,188	296,963
Duval	33	100	140	296
Escambia	1	114	1	4
Franklin	252	107	756	3,024
Gadsden	....	....	....	....
Hamilton	....	....	....	....
Hernando	6,260	12,828	10,105	36,895
Hillsboro	13,858	72,454	49,352	82,234
Holmes	....	....	....	....
Jackson	....	....	....	....
Jefferson	....	....	....	....
Lafayette	2	25	50	112
Lake	56,238	60,311	98,076	180,057
Lee	234,970	84,889	303,245	572,803
Leon	102	250	310	640
Levy	59	39	137	266
Liberty	2	2	3	24
Madison	....	....	....	....
Manatee	124,189	92,875	187,548	252,392
Marion	13,800	200	34,300	54,800
Monroe	3,202	178	1,206	2,950
Nassau	267	65	....	....
Orange	30,292	23,530	52,862	79,872
Osceola	13,500	32,118	26,742	37,713
Palm Beach	60,409	37,230	167,031	234,323
Pasco	6,595	41,336	25,753	26,854
Pinellas	104,218	102,352	197,591	288,820
Polk	73,576	135,797	72,146	278,912
Putnam	11,868	3,515	33,594	103,457
Santa Rosa	10	40	62	157
Seminole	12,140	250	41,915	43,115
St. Johns	877	271	2,019	4,040
St. Lucie	58,411	536,852	97,176	216,333
Sumter	1,217	1,756	1,467	2,768
*Suwannee	....	....	....	....
Taylor	....	....	....	....
Volusia	28,115	6,040	36,580	44,705
Wakulla	....	....	....	....
Walton	....	4,442	....	....
Washington	1	22	15	30
Totals	1,190,275	1,792,819	2,210,787	$3,809,660

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	SUGAR APPLES.	
	CRATES.	VALUE.
Alachua		$
Baker		
Bay		
Bradford		
Brevard		
Calhoun		
Citrus		
Clay		
Columbia		
Dade	100	219
DeSoto		
Duval		
Escambia		
Franklin		
Gadsden		
Hamilton		
Hernando		
Hillsboro	16	35
Holmes		
Jackson		
Jefferson		
Lafayette		
Lake		
Lee	30	60
Leon		
Levy		
Liberty		
Madison		
Manatee		
Marion		
Monroe	2,975	1,324
Nassau		
Orange		
Osceola		
Palm Beach	264	508
Pasco		
Pinellas		
Polk		
Putnam		
Santa Rosa		
Seminole		
St. Johns		
St. Lucie	73	132
Sumter		
*Suwannee		
Taylor		
Volusia		
Wakulla		
Walton		
Washington		
Totals	3,458	$ 2,278

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	AVOCADO PEARS.		
	TREES.	CRATES.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard			
Calhoun			
Citrus			
Clay			
Columbia			
Dade	49,598	20,083	47,022
DeSoto			
Duval			
Escambia			
Franklin			
Gadsden			
Hamilton			
Hernando			
Hillsboro	709	137	346
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake			
Lee	832	2,118	4,350
Leon			
Levy			
Liberty			
Madison			
Manatee	1,020	18	76
Marion			
Monroe	185	305	985
Nassau			
Orange			
Osceola	17		
Palm Beach	3,567	1,163	6,428
Pasco			
Pinellas	105	25	100
Polk			
Putnam	10	25	50
Santa Rosa			
Seminole			
St. Johns			
St. Lucie	970	415	1,019
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	57,013	24,289	$ 60,376

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	PINEAPPLES.	
	CRATES.	VALUE.
Alachua		$
Baker		
Bay		
Bradford		
Brevard	25	50
Calhoun		
Citrus		
Clay		
Columbia		
Dade	15,100	19,922
DeSoto	12,600	27,500
Duval		
Escambia		
Franklin		
Gadsden		
Hamilton		
Hernando		
Hillsboro		
Holmes		
Jackson		
Jefferson		
Lafayette		
Lake	1	2
Lee		
Leon		
Levy		
Liberty		
Madison		
Manatee	3	6
Marion		
Monroe		
Nassau		
Orange	700	1,900
Osceola	16	45
Palm Beach	218,459	228,457
Pasco	188	112
Pinellas		
Polk		
Putnam		
Santa Rosa		
Seminole		
St. Johns		
St. Lucie	153,208	221,124
Sumter		
*Suwannee		
Taylor		
Volusia		
Wakulla		
Walton		
Washington		
Totals	400,300	499.118

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	BANANAS.	
	BUNCHES.	VALUE.
Alachua	...	$...
Baker	...	...
Bay	26	32
Bradford	19	50
Brevard	1,215	667
Calhoun	4	12
Citrus	102	106
Clay	18	18
Columbia	261	468
Dade	40,896	12,013
DeSoto	1,294	894
Duval	...	...
Escambia	12	8
Franklin	781	790
Gadsden	...	...
Hamilton	...	...
Hernando	726	305
Hillsboro	1,473	1,564
Holmes	...	...
Jackson	...	...
Jefferson	...	...
Lafayette	7	12
Lake	651	300
Lee	139	110
Leon	...	...
Levy	25	24
Liberty	...	...
Madison	...	...
Manatee	1,235	695
Marion	...	...
Monroe	1,621	370
Nassau	199	198
Orange	1,536	898
Osceola	160	114
Palm Beach	24,932	10,995
Pasco	145	215
Pinellas	676	581
Polk	96	156
Putnam	...	...
Santa Rosa	...	...
Seminole	...	...
St. Johns	21	22
St. Lucie	7,802	7,971
Sumter	...	...
*Suwannee	...	...
Taylor	...	...
Volusia	...	...
Wakulla	...	...
Walton	34	21
Washington	14	9
Totals	86,120	$ 39,618

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	MANGOES.		
	TREES.	CRATES.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard	108	207	253
Calhoun			
Citrus			
Clay	6	3	7
Columbia			
Dade	16,885	14,667	30,783
DeSoto	592	992	1,109
Duval			
Escambia			
Franklin			
Gadsden			
Hamilton			
Hernando			
Hillsboro	690	528	1,407
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake	12	11	21
Lee	307	2,168	2,597
Leon			
Levy			
Liberty			
Madison			
Manatee	115	358	747
Marion			
Monroe	145	416	1,204
Nassau			
Orange			
Osceola	12	1	3
Palm Beach	9,710	8,693	10,936
Pasco	2	6	4
Pinellas	33		
Polk			
Putnam			
Santa Rosa			
Seminole			
St. Johns			
St. Lucie	1,444	446	815
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	30,061	28,496	$ 49,886

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	JAPAN PERSIMMONS.		
	TREES.	CRATES.	VALUE.
Alachua			$
Baker	3,200	150	200
Bay	37	39	86
Bradford	310	123	230
Brevard	89	411	617
Calhoun	5	2	6
Citrus	15	5	11
Clay	354	189	247
Columbia	16	65	180
Dade	345	1	3
DeSoto			
Duval	108	55	255
Escambia	244	32	53
Franklin	204	816	820
Gadsden			
Hamilton			
Hernando			
Hillsboro	456	114	256
Holmes			
Jackson			
Jefferson	4	10	15
Lafayette	14	21	30
Lake	587	168	210
Lee	37	88	155
Leon			
Levy	17	4	4
Liberty			
Madison			
Manatee	1,412	7	15
Marion			
Monroe			
Nassau	244		
Orange	102	22	28
Osceola	102	40	56
Palm Beach	252	39	116
Pasco	184	210	209
Pinellas	4		
Polk	30	54	110
Putnam			
Santa Rosa	21	33	42
Seminole	12	20	30
St. Johns	1,685	2,317	1,882
St. Lucie	1,243	50	111
Sumter	483	155	158
*Suwannee			
Taylor			
Volusia	858	460	682
Wakulla			
Walton	34	52	107
Washington			
Totals	12,708	5,752	$ 6,924

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	SAPODILLAS.	
	CRATES.	VALUE.
Alachua		$
Baker		
Bay		
Bradford		
Brevard		
Calhoun		
Citrus		
Clay		
Columbia		
Dade	467	467
DeSoto	5	5
Duval		
Escambia		
Franklin		
Gadsden		
Hamilton		
Hernando		
Hillsboro	16	31
Holmes		
Jackson		
Jefferson		
Lafayette		
Lake		
Lee	29	33
Leon		
Levy		
Liberty		
Madison		
Manatee		
Marion		
Monroe	2,556	2,669
Nassau		
Orange		
Osceola		
Palm Beach	315	723
Pasco	22	22
Pinellas		
Polk		
Putnam		
Santa Rosa		
Seminole		
St. Johns		
St. Lucie	88	177
Sumter		
*Suwannee		
Taylor		
Volusia		
Wakulla		
Walton		
Washington		
Totals	3,498	$ 4,127

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	GUAVAS.	
	CRATES.	VALUE.
Alachua		$
Baker		
Bay	1	3
Bradford	1	3
Brevard	752	803
Calhoun	1	5
Citrus	96	132
Clay	10	18
Columbia		
Dade	9,663	8,796
DeSoto	4,196	4,196
Duval		
Escambia		
Franklin	15	30
Gadsden		
Hamilton		
Hernando	125	140
Hillsboro	16,618	17,368
Holmes		
Jackson		
Jefferson		
Lafayette		
Lake	3,728	3,102
Lee	2,349	1,617
Leon		
Levy	17	30
Liberty		
Madison		
Manatee	95	85
Marion		
Monroe	2,789	929
Nassau		
Orange	53	26
Osceola	279	287
Palm Beach	9,731	10,222
Pasco	2,014	2,073
Pinellas	944	495
Polk	2,568	1,956
Putnam	10	20
Santa Rosa		
Seminole	210	180
St. Johns	12	27
St. Lucie	4,034	4,007
Sumter		
*Suwannee		
Taylor		
Volusia	1,665	2,317
Wakulla		
Walton	4	2
Washington		
Totals	61,980	$ 58,869

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	COCOANUTS.		
	TREES.	NUTS.	VALUE.
Alachua			$
Baker			
Bay			
Bradford			
Brevard			
Calhoun			
Citrus			
Clay			
Columbia			
Dade	396,782	3,069,750	70,227
DeSoto			
Duval			
Escambia			
Franklin			
Gadsden			
Hamilton			
Hernando			
Hillsboro	27	12	4
Holmes			
Jackson			
Jefferson			
Lafayette			
Lake			
Lee	600	17,629	1,072
Leon			
Levy			
Liberty			
Madison			
Manatee			
Marion			
Monroe	3,107	606,400	3,267
Nassau			
Orange			
Osceola	1		
Palm Beach	92,538	402,496	6,723
Pasco	2	2	2
Pinellas			
Polk			
Putnam			
Santa Rosa			
Seminole			
St. Johns			
St. Lucie	1,282	7,160	814
Sumter			
*Suwannee			
Taylor			
Volusia			
Wakulla			
Walton			
Washington			
Totals	494,339	4,103,449	$ 82,109

*Not reported.

7

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	PECANS.			
	BEARING TREES.	NON-BEARING.	NO. OF BUSHELS.	VALUE.
Alachua	1,425	25,585	837	$ 4,811
Baker	600	60,900	400	2,400
Bay	20	1,399	33	213
Bradford	3,630	4,107	2,044	14,186
Brevard	333	504	112	291
Calhoun	144	867	146	778
Citrus	84	712	106	2,865
Clay	455	1,168	139	1.501
Columbia	1,497	1,548	941	2,376
Dade	11	32	8	43
DeSoto	4	100	30	60
Duval	160	260	139	1,896
Escambia	2,659	7,991	908	7,296
Franklin	263	1,299	526	2.104
Gadsden	2,151	1,507	431	3,438
Hamilton	....	....	....	....
Hernando	2	2,749	5	15
Hillsboro	144	98	227	1,188
Holmes	117	924	34	198
Jackson	20	....	10	80
Jefferson	1,194	5,884	770	22,383
Lafayette	123	66	30	115
Lake	138	1,510	41	274
Lee	....	....	....	....
Leon	1,185	2,038	1,389	5,409
Levy	354	6,088	260	1,708
Liberty	545	388	88	740
Madison	447	307	667	4,167
Manatee	30	6	21	105
Marion	300	....	600	3,000
Monroe	....	....	....	....
Nassau	1,359	6,830	....	....
Orange	85	191	8	50
Osceola	19	120	8	70
Palm Beach	....	....	....	....
Pasco	29	2,138	24	150
Pinellas	142	156	9	44
Polk	100	52	12	110
Putnam	75	3,407	75	150
Santa Rosa	3,789	7,544	2,067	13,296
Seminole	7	100	5	25
St. Johns	2,124	1,747	4,653	13,880
St. Lucie	....	1,268	....	....
Sumter	55	2,189	83	485
*Suwannee	....	....	....	....
Taylor	17	35	20	80
Volusia	1,669	4,129	594	1,592
Wakulla	14	936	15	106
Walton	398	77,124	414	3,594
Washington	348	2,182	139	1.525
Totals	28,265	238,185	19,068	$ 118,797

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	STRAWBERRIES.		
	ACRES.	QUARTS.	VALUE.
Alachua	9	18,330	$ 2,665
Baker	1	3,000	300
Bay	5	2,657	665
Bradford	703	2,217,248	301,298
Brevard	2	4,700	1,600
Calhoun	....	....	....
Citrus	....	....	....
Clay	25	44,519	3,713
Columbia	1	200	50
Dade	4	6,330	2,065
DeSoto	....	....	....
Duval	155	88,840	15,591
Escambia	305	30,338	2,396
Franklin	....	....	....
Gadsden	....	....	....
Hamilton	....	....	....
Hernando	....	....	....
Hillsboro	277	798,500	133,111
Holmes	....	....	....
Jackson	....	....	....
Jefferson	5	780	155
Lafayette	....	....	....
Lake	6	12,402	2,644
Lee	1	40	8
Leon	....	....	....
Levy	....	....	....
Liberty	....	....	....
Madison	....	....	....
Manatee	3	10,400	2,100
Marion	....	....	....
Monroe	....	....	....
Nassau	2	10,010	1,186
Orange	2	1,550	319
Osceola	1	1,530	359
Palm Beach	2	10,750	562
Pasco	6	16,500	1,975
Pinellas	5	7,350	1,801
Polk	148	159,645	28,481
Putnam	7	6,500	1,625
Santa Rosa	1	580	145
Seminole	4	8,000	1,900
St. Johns	29	44,535	7,847
St. Lucie	1	190	57
Sumter	....	....	....
*Suwannee	....	....	....
Taylor	....	....	....
Volusia	34	64,700	8,945
Wakulla	....	....	....
Walton	1	1,292	196
Washington	....	....	....
Totals	1,745	3,972,416	$ 523,759

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	PEARS.			
	BEARING TREES.	NON-BEARING.	NO. OF BARRELS.	VALUE.
Alachua	2,378	319	3,226	$ 6,269
Baker	200	23,025	60	120
Bay	82	1,164	396	655
Bradford	584	226	601	1,111
Brevard	8	....	8	20
Calhoun	296	14	281	481
Citrus	218	306	245	34
Clay	1,768	1,272	738	1,380
Columbia	251	285	155	323
Dade	4	20	1	2
DeSoto	45	4	60	220
Duval	2,845	1,633	2,056	10,231
Escambia	7,598	555	2,040	2,343
Franklin	1,617	440	3,234	6,538
Gadsden	....	....	....	....
Hamilton	....	....	....	....
Hernando	102	117	100	410
Hillsboro	51	396	73	158
Holmes	184	58	90	267
Jackson	128	32	166	206
Jefferson	295	116	494	861
Lafayette	184	20	102	205
Lake	1,792	1,967	1,842	3,402
Lee	6	....	12	25
Leon	1,689	797	1,587	4,925
Levy	1,179	151	1,373	1,346
Liberty	88	42	51	221
Madison	337	114	303	480
Manatee	....	....	....	....
Marion	246	....	124	496
Monroe	....	....	....	....
Nassau	1,446	580	....	....
Orange	108	88	138	330
Osceola	54	66	14	30
Palm Beach	....	....	....	....
Pasco	754	980	580	1,354
Pinellas	....	....	....	....
Polk	12	4	18	52
Putnam	970	50	1,498	1,717
Santa Rosa	1,145	1,654	438	1,060
Seminole	....	....	....	....
St. Johns	1,706	47	1,963	5,844
St. Lucie	....	....	....	....
Sumter	180	308	363	82,350
*Suwannee	....	....	....	....
Taylor	....	....	....	....
Volusia	1,851	315	1,685	2,613
Wakulla	308	259	1,194	1,336
Walton	531	633	411	412
Washington	205	104	106	252
Totals	33,794	38,080	28,425	$ 143,203

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	PEACHES.			
	BEARING TREES.	NON-BEARING.	NO. OF BUSHELS.	VALUE.
Alachua	1,986	532	1,434	$ 8,600
Baker	25	75,000	50	200
Bay	4,358	2,530	3,447	4,193
Bradford	3,105	701	3,426	4,765
Brevard	9	....	18	18
Calhoun	2,504	749	2,912	2,836
Citrus	2,912	1,989	3,947	8,093
Clay	2,991	3,183	2,198	3,180
Columbia	1,887	1,569	1,366	1,349
Dade	368	133	64	221
DeSoto	25	41	50	100
Duval	4,303	4,275	5,127	17,380
Escambia	6,473	8,106	5,717	9,020
Franklin	2,734	1,443	5,468	8,202
Gadsden	....	....	....	....
Hamilton	....	....	....	....
Hernando	282	910	740	1,055
Hillsboro	2,627	4,784	2,243	4,275
Holmes	1,687	1,456	1,614	1,614
Jackson	134	156	210	520
Jefferson	1,215	300	1,806	2,483
Lafayette	204	68	288	232
Lake	3,385	4,963	2,028	2,772
Lee	4	....	20	20
Leon	2,762	949	2,758	4,303
Levy	916	304	835	859
Liberty	1,498	429	1,241	5,877
Madison	347	43	937	937
Manatee	155	25	39	95
Marion	2,000	....	2,800	2,800
Monroe	....	....	....	....
Nassau	4,096	1,776	....	....
Orange	642	405	236	414
Osceola	1,001	1,548	345	745
Palm Beach	....	....	....	....
Pasco	4,677	4,852	2,470	2,799
Pinellas	492	441	243	322
Polk	240	316	332	622
Putnam	11,178	2,980	13,447	14,413
Santa Rosa	7,477	6,008	4,654	8,029
Seminole	230	40	500	490
St. Johns	4,039	2,233	8,054	16,107
St. Lucie	7	212	5	8
Sumter	348	994	465	482
*Suwannee	....	....	....	....
Taylor	197	376	389	382
Volusia	28,060	6,500	13,265	13,265
Wakulla	4,001	546	7,053	7,053
Walton	4,668	2,615	3,015	3,073
Washington	1,496	560	1,501	1,501
Totals	123,945	147,040	108,757	$ 165,704

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	PLUMS.			
	BEARING TREES.	NON-BEARING.	NO. OF BUSHELS.	VALUE.
Alachua	20	75	14	$ 32
Baker	500	18,000	500	600
Bay	486	885	193	402
Bradford	471	603	455	742
Brevard	....	....	....	....
Calhoun	361	210	215	243
Citrus	218	306	245	843
Clay	311	61	287	375
Columbia	2,111	1,317	1,083	1,073
Dade	122	1	1	....
DeSoto	12	5	10	5
Duval	956	921	1,028	3,898
Escambia	1,489	353	737	1,277
Franklin	4,777	3,153	7,331	7,450
Hamilton	....	....	....	....
Gadsden	....	....	....	....
Hernando	....	....	....	....
Hillsboro	920	2,704	628	1,316
Holmes	208	130	132	132
Jackson	174	....	25	25
Jefferson	25	....	10	10
Lafayette	231	163	164	175
Lake	89	138	78	85
Lee	2	....	12	10
Leon	501	481	781	512
Levy	410	1,712	46	69
Liberty	83	11	8	87
Madison	....	....	....	....
Manatee	30	25	55	207
Marion	....	....	....	....
Monroe	....	....	....	....
Nassau	832	353	....	....
Orange	47	34	43	101
Osceola	5	60	6	12
Palm Beach	....	....	....	....
Pasco	1,620	1,885	924	908
Pinellas	39	19	....	....
Polk	166	152	77	112
Putnam	684	....	857	962
Santa Rosa	1,224	485	821	326
Seminole	43	75	26	38
St. Johns	957	404	975	1,904
St. Lucie	....	....	....	....
Sumter	4	214	2	2
*Suwannee	....	....	....	....
Taylor	....	....	....	....
Volusia	150	150	65	65
Wakulla	13	....	18	18
Walton	77	221	163	103
Washington	52	....	28	85
Totals	20,365	35,306	18,043	$ 24,195

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	GRAPE VINES.			
	Grapes.		Wines.	
	POUNDS.	VALUE.	GALLONS.	VALUE.
Alachua	7,355	$ 1,224	....	$........
Baker	2,300	320	....	....
Bay	107,022	10,871	1,310	2,542
Bradford	98,285	2,674	....	....
Brevard	1,700	155	....	....
Calhoun	16,148	1,478	372	370
Citrus	10.018	1,718	1	4
Clay	106.873	2,121	20	20
Columbia	37,660	3,495	10,000	25,000
Dade	4,650	456	....	....
DeSoto	360	70	....	....
Duval	10,170	490	600	687
Escambia	21,849	1,689	202	392
Franklin	166,000	8,300	....	....
Gadsden	....	....	....	....
Hamilton	....	....	....	....
Hernando	....	....	....	....
Hillsboro	10,195	1,975	....	....
Holmes	4,675	467	....	....
Jackson	40	4	10	25
Jefferson	8	3	....	....
Lafayette	4,300	430	....	....
Lake	13,284	651	171	170
Lee	465	42	....	....
Leon	7,317	703	2	5
Levy	6,206	862	895	895
Liberty	3,305	1,318	....	....
Madison	2,250	340	....	....
Manatee	200	20	....	....
Marion	....	....	....	....
Monroe	....	....	....	....
Nassau	34,351	3,582	....	....
Orange	1,970	170	....	....
Osceola	1,344	135	....	....
Palm Beach	709	64	....	....
Pasco	13,938	1,391	182	218
Pinellas	410	65	....	....
Polk	1,700	326	....	....
Putnam	50.000	1,080	300	600
Santa Rosa	29.662	2,006	487	879
Seminole	3,500	350	3,000	4,000
St. Johns	422,780	42,298	11,230	11,230
St. Lucie	1,097	131	2	4
Sumter	410	53	60	60
*Suwannee	....	....	....	....
Taylor	100	12	12	12
Volusia	42,400	2,235	....	....
Wakulla	1,150	73	....	....
Walton	115,522	2,612	317	308
Washington	20,396	824	20	40
Totals	1,385,064	99.282	29,193	$ 47,461

*Not reported.

TABLE No. 3—FRUIT PRODUCTS—*Continued.*

COUNTIES.	FIGS.			
	BEARING TREES.	NON-BEARING.	NO. OF CRATES.	VALUE.
Alachua	157	15	350	$ 503
Baker	....	5,000	....	....
Bay	206	1,521	244	210
Bradford	33	39	47	143
Brevard	10	....	10	30
Calhoun	231	41	649	1,269
Citrus	67	88	107	280
Clay	48	562	65	124
Columbia	15	8	28	84
Dade	32	115	20	46
DeSoto	....	....	....	....
Duval	3,109	2,736	3,450	14,762
Escambia	2,202	221	2,067	2,396
Franklin	834	39	3,216	4,927
Gadsden	....	....	....	....
Hamilton	....	....	....	....
Hernando	10	476	....	30
Hillsboro	564	2,357	651	1,740
Holmes	743	50	883	885
Jackson	7	10	10	10
Jefferson	23	8	31	98
Lafayette	....	....	....	....
Lake	44	36	332	460
Lee	6	1	12	25
Leon	1,847	200	2,298	4,040
Levy	73	....	119	183
Liberty	150	....	106	457
Madison	140	....	574	574
Manatee	....	....	....	....
Marion	....	....	....	....
Monroe	....	....	....	....
Nassau	301	116	....	....
Orange	1	....	3	5
Osceola	....	....	....	....
Palm Beach	19	44	1	4
Pasco	16	882	59	61
Pinellas	....	....	....	....
Polk	....	....	....	....
Putnam	53	6	133	320
Santa Rosa	469	1,004	1,207	853
Seminole	55	....	25	93
St. Johns	764	258	1,314	2,629
St. Lucie	54	528	35	95
Sumter	7	3	19	36
*Suwannee	....	....	....	....
Taylor	4	....	150	75
Volusia	878	30	1,593	2,327
Wakulla	20	9	57	75
Walton	1,749	391	4,372	2,348
Washington	206	2	327	327
Totals	15,147	16,263	24,564	$ 42,506

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.

COUNTIES.	HORSES. (On Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	3,796	$ 412,022
Baker	494	56,735
Bay	289	38,510
Bradford	1,884	203,657
Brevard	467	53,579
Calhoun	386	41,140
Citrus	459	41,895
Clay	368	37,665
Columbia	1,249	138,200
Dade	689	103,862
DeSoto	1,891	227,955
Duval	3.585	605,978
Escambia	1,905	197.499
Franklin	190	28,500
Gadsden	1,568	199,325
Hamilton	946	87,580
Hernando	421	58,020
Hillsboro	3,360	452.705
Holmes	474	55 375
Jackson	3.050	269,061
Jefferson	767	86,064
Lafayette	689	81,715
Lake	898	101,060
Lee	589	97.471
Leon	1.437	197.754
Levy	1.227	116,980
Liberty	330	36,957
Madison	985	137.093
Manatee	1,992	149,910
Marion	1,947	194,600
Monroe	....	....
Nassau	487	55,915
Orange	997	113,008
Osceola	1.099	107.726
Palm Beach	368	78,839
Pasco	1,007	108,749
Pinellas	372	45.210
Polk	1.490	198.050
Putnam	1,316	177.900
Santa Rosa	1,407	150.097
Seminole	796	136,160
St. Johns	1,679	210,055
St. Lucie	425	58,800
Sumter	1,441	135,570
*Suwannee	....	....
Taylor	405	57.166
Volusia	1.685	159,105
Wakulla	417	41.220
Walton	863	82,294
Washington	582	64,920
Totals	55.168	$ 6.490.251

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	COLTS. (On Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	382	$ 35,315
Baker	19	1,650
Bay	4	225
Bradford	73	4,425
Brevard	70	7,930
Calhoun	9	375
Citrus	60	3,555
Clay	13	875
Columbia	100	5,170
Dade	5	520
DeSoto	61	3,520
Duval	39	2,415
Escambia	70	2,835
Franklin	9	675
Gadsden	66	3,390
Hamilton	27	1.870
Hernando	21	1,650
Hillsboro	54	2,740
Holmes	8	290
Jackson	186	10.418
Jefferson	18	1,220
Lafayette	17	1,125
Lake	77	3,335
Lee	6	490
Leon	99	5,765
Levy	181	6,505
Liberty	23	1,520
Madison	26	1,725
Manatee	121	6,055
Marion	141	8,370
Monroe	....	....
Nassau	1	50
Orange	43	4,710
Osceola	161	6,570
Palm Beach	4	145
Pasco	82	5,735
Pinellas	1	50
Polk	33	1,625
Putnam	2	125
Santa Rosa	85	3,115
Seminole	18	1,550
St. Johns	10	720
St. Lucie	13	640
Sumter	194	5,665
*Suwannee	....	....
Taylor	....	....
Volusia	7	205
Wakulla	23	1,775
Walton	32	835
Washington	31	1,510
Totals	2,725	$ 161.178

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	MULES. (On Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	1,984	$ 524,209
Baker	486	71,680
Bay	418	72,690
Bradford	1,054	144,709
Brevard	139	25,600
Calhoun	425	63,345
Citrus	162	26,230
Clay	273	35,744
Columbia	1,375	160,502
Dade	637	125,608
DeSoto	794	167,745
Duval	666	178,760
Escambia	954	120,605
Franklin	167	33,400
Gadsden	1,222	181,345
Hamilton	1,261	179,180
Hernando	101	17,900
Hillsboro	1,015	194,850
Holmes	1,435	206,835
Jackson	4,459	496,481
Jefferson	1,467	190,994
Lafayette	511	68,835
Lake	634	120,275
Lee	214	45,990
Leon	933	167,369
Levy	247	32,800
Liberty	251	40,271
Madison	1,771	234,263
Manatee	389	66,980
Marion	1,595	272,300
Monroe	....	....
Nassau	310	39,445
Orange	473	86,615
Osceola	169	26,768
Palm Beach	428	280,740
Pasco	241	39,960
Pinellas	274	51,655
Polk	431	69,810
Putnam	735	180,900
Santa Rosa	1,159	192,475
Seminole	305	69,150
St. Johns	1,016	193,110
St. Lucie	195	42,740
Sumter	464	62,295
*Suwannee	....	....
Taylor	609	98,809
Volusia	997	157,474
Wakulla	318	49,707
Walton	1,239	148,645
Washington	762	112,118
Totals	37,154	$ 6,169,911

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	MULE COLTS. (On Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	182	$ 22,535
Baker	1	100
Bay	4	550
Bradford	31	3,055
Brevard	1	25
Calhoun	4	600
Citrus	7	325
Clay	5	275
Columbia	47	2,850
Dade	5	925
DeSoto	7	1,650
Duval	10	2,175
Escambia	6	430
Franklin	1	75
Gadsden	7	330
Hamilton	13	1,485
Hernando	....	....
Hillsboro	6	470
Holmes	5	300
Jackson	214	26,130
Jefferson	56	5,655
Lafayette	29	3,310
Lake	10	1,500
Lee	5	700
Leon	33	3,255
Levy	16	760
Liberty	24	3,740
Madison	4	350
Manatee	36	4,825
Marion	124	10,060
Monroe	....	....
Nassau	....	....
Orange	6	700
Osceola	1	50
Palm Beach	1	100
Pasco	12	1,420
Pinellas	....	....
Polk	3	275
Putnam	2	130
Santa Rosa	36	2,595
Seminole	....	....
St. Johns	13	275
St. Lucie	....	....
Sumter	4	550
*Suwannee	....	....
Taylor	....	....
Volusia	....	....
Wakulla	2	200
Walton	8	475
Washington	6	510
Totals	987	$ 105,720

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	ASSES AND JENNETS. (On Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	14	$ 1,950
Baker	3	150
Bay	...	...
Bradford	10	370
Brevard	18	420
Calhoun	6	150
Citrus	2	60
Clay	3	70
Columbia	15	1,800
Dade	11	230
DeSoto	4	260
Duval	...	...
Escambia	4	425
Franklin	1	25
Gadsden	3	300
Hamilton	4	350
Hernando	1	50
Hillsboro	5	400
Holmes	...	...
Jackson	8	286
Jefferson	4	160
Lafayette	4	280
Lake	8	509
Lee	1	75
Leon	7	200
Levy	4	430
Liberty	6	590
Madison	3	300
Manatee	9	325
Marion	...	...
Monroe	...	...
Nassau	...	...
Orange	...	...
Osceola	24	530
Palm Beach	...	...
Pasco	2	130
Pinellas	...	...
Polk	8	650
Putnam	12	905
Santa Rosa	20	1,695
Seminole	6	1,200
St. Johns	4	175
St. Lucie	...	...
Sumter	...	...
*Suwannee	...	...
Taylor	...	...
Volusia	11	515
Wakulla	2	40
Walton	6	230
Washington	1	250
Totals	254	$ 16.485

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	WORK OXEN—NO. YOKE. (On Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	133	$ 5,230
Baker	4	100
Bay	561	40,645
Bradford	62	3,840
Brevard	25	780
Calhoun	287	7,653
Citrus	6	300
Clay	122	5,822
Columbia	30	590
Dade	....	....
DeSoto	118	4.225
Duval	341	20,300
Escambia	518	23.825
Franklin	143	3.575
Gadsden	174	4,570
Hamilton	20	950
Hernando	18	1,175
Hillsboro	3	645
Holmes	324	10,310
Jackson	798	14,478
Jefferson	305	9,460
Lafayette	14	320
Lake	13	605
Lee	66	3,390
Leon	531	16,210
Levy	41	1,520
Liberty	251	5,264
Madison	23	650
Manatee	151	3,925
Marion	....	....
Monroe	....	....
Nassau	448	14,360
Orange	15	490
Osceola	46	3,410
Palm Beach	2	125
Pasco	62	2,652
Pinellas	1	35
Polk	60	2,255
Putnam	59	4,380
Santa Rosa	1,291	48,596
Seminole	....	....
St. Johns	154	3,125
St. Lucie	77	2,980
Sumter	8	245
*Suwannee	....	....
Taylor	13	280
Volusia	13	720
Wakulla	59	1,308
Walton	438	10 761
Washington	372	10.124
Totals	8,200	$ 296.203

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	STOCK CATTLE. *Native Breeds, all ages,* (On Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	45,334	$ 537,832
Baker	12,964	153,525
Bay	3,303	35,182
Bradford	19,081	236,065
Brevard	12,027	156,245
Calhoun	7,313	75,935
Citrus	9,289	8,702
Clay	10,065	71,840
Columbia	17,712	194,347
Dade	....	....
DeSoto	132,368	1,708,322
Duval	11,722	157,651
Escambia	7,587	99,129
Franklin	3,485	87,125
Gadsden	4,410	44,100
Hamilton	10.723	109,480
Hernando	6.070	66.115
Hillsboro	26,769	316,762
Holmes	8,082	118,044
Jackson	15,807	440,716
Jefferson	5,675	58,833
Lafayette	11,600	129,290
Lake	6,286	80,743
Lee	29,702	576,705
Leon	2,918	27,287
Levy	16,811	168.119
Liberty	5,785	56.927
Madison	7,069	81,792
Manatee	33,836	338,680
Marion	5,058	50,580
Monroe	....	....
Nassau	13,582	145,784
Orange	13,418	169,661
Osceola	98,808	1,482,120
Palm Beach	8,006	50,595
Pasco	15,825	142,320
Pinellas	1,850	20,210
Polk	43,966	498,288
Putnam	15,283	152,930
Santa Rosa	17,068	203,656
Seminole	12,186	184,140
St. Johns	38,249	573,470
St. Lucie	27,248	176,275
Sumter	15,917	159,167
*Suwannee	....	....
Taylor	12.365	131,675
Volusia	38,964	389,640
Wakulla	5.124	44,376
Walton	10.483	103,087
Washington	8,765	94.297
Totals	855,958	$ 10,907.764

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including ¾ Grades and up—all ages. (On Hand July 1, 1914.) HEREFORD AND GRADES.	
	NUMBER.	VALUE.
Alachua	211	$ 19,165
Baker		
Bay	40	530
Bradford	35	808
Brevard		
Calhoun	3	15
Citrus	3	150
Clay	8	235
Columbia	85	1,175
Dade	2	230
DeSoto		
Duval	1	90
Escambia		
Franklin	39	1,560
Gadsden	6	110
Hamilton	87	2,895
Hernando		
Hillsboro		
Holmes	5	250
Jackson	40	2,690
Jefferson	63	1,419
Lafayette	6	165
Lake	4	160
Lee		
Leon	933	11,284
Levy		
Liberty	46	1,260
Madison	36	520
Manatee	1	25
Marion		
Monroe		
Nassau		
Orange	71	900
Osceola	62	1,500
Palm Beach		
Pasco	13	223
Pinellas		
Polk		
Putnam		
Santa Rosa	35	650
Seminole		
St. Johns		
St. Lucie	7	525
Sumter	8	225
*Suwannee		
Taylor		
Volusia		
Wakulla		
Walton	2	75
Washington	49	3,600
Totals	1,901	$ 52,434

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including ¾ Grades and up—all ages. (On Hand July 1, 1914.) SHORTHORN AND GRADES.	
	NUMBER.	VALUE.
Alachua	22	$ 1,939
Baker		
Bay	1	50
Bradford	7	160
Brevard		
Calhoun	1	50
Citrus	9	385
Clay		
Columbia	4	200
Dade		
DeSoto		
Duval		
Escambia	6	220
Franklin		
Gadsden		
Hamilton	3	150
Hernando		
Hillsboro	4	450
Holmes		
Jackson	9	340
Jefferson		
Lafayette	10	500
Lake	1	25
Lee		
Leon	516	3,050
Levy		
Liberty	6	150
Madison		
Manatee		
Marion	640	30,000
Monroe		
Nassau		
Orange		
Osceola	2	100
Palm Beach		
Pasco	3	240
Pinellas		
Polk		
Putnam		
Santa Rosa	87	2,030
Seminole		
St. Johns		
St. Lucie		
Sumter		
*Suwannee		
Taylor		
Volusia		
Wakulla		
Walton	7	425
Washington	8	180
Totals	1,346	$ 40,644

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including ¾ Grades and up—all ages. (On Hand July 1, 1914.) DEVON AND GRADES.	
	NUMBER.	VALUE.
Alachua	3	$ 150
Baker		
Bay		
Bradford	18	610
Brevard		
Calhoun	1	50
Citrus	2	60
Clay		
Columbia	8	110
Dade		
DeSoto		
Duval		
Escambia	1	50
Franklin		
Gadsden		
Hamilton		
Hernando		
Hillsboro	2	150
Holmes		
Jackson	6	100
Jefferson		
Lafayette		
Lake		
Lee		
Leon		
Levy		
Liberty	125	1,875
Madison		
Manatee		
Marion		
Monroe		
Nassau		
Orange		
Osceola	22	475
Palm Beach		
Pasco	1	50
Pinellas		
Polk		
Putnam		
Santa Rosa	86	2,060
Seminole		
St. Johns		
St. Lucie		
Sumter		
*Suwannee		
Taylor		
Volusia		
Wakulla	1	35
Walton	4	135
Washington	6	175
Totals	285	$ 6,085

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including ¾ Grades and up—all ages. (On Hand July 1, 1914.) ABERDEEN, ANGUS POLLED AND GRADES.	
	NUMBER.	VALUE.
Alachua	71	$ 2,735
Baker		
Bay		
Bradford	33	745
Brevard		
Calhoun		
Citrus		
Clay	24	745
Columbia		
Dade		
DeSoto		
Duval	13	695
Escambia		
Franklin		
Gadsden		
Hamilton		
Hernando		
Hillsboro		
Holmes		
Jackson		
Jefferson		
Lafayette		
Lake		
Lee	2	200
Leon		
Levy	6	120
Liberty	14	260
Madison		
Manatee		
Marion	40	2,000
Monroe		
Nassau	2	150
Orange		
Osceola	40	3,760
Palm Beach		
Pasco	30	512
Pinellas		
Polk	5	375
Putnam		
Santa Rosa	63	1,470
Seminole		
St. Johns		
St. Lucie		
Sumter		
*Suwannee		
Taylor		
Volusia		
Wakulla		
Walton		
Washington	75	2,274
Totals	418	$ 16,041

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	THOROUGHBRED CATTLE. Including ¾ Grades and up—all ages. (On Hand July 1, 1914.) JERSEY AND GRADES.	
	NUMBER.	VALUE.
Alachua	1,604	$ 73,294
Baker	356	7,080
Bay	70	1,323
Bradford	857	29,813
Brevard	41	1,875
Calhoun	35	1,065
Citrus	277	9,110
Clay	59	5,680
Columbia	40	1.340
Dade	104	9,515
DeSoto	172	9,445
Duval	2,848	119,798
Escambia	1,306	46,785
Franklin	27	1,080
Gadsden	350	10,735
Hamilton	84	2,860
Hernando	49	1,495
Hillsboro	799	36,656
Holmes	99	3,885
Jackson	368	9,541
Jefferson	41	910
Lafayette	127	3,220
Lake	424	8,417
Lee	65	4,025
Leon	670	16,282
Levy	255	9,495
Liberty	187	4,571
Madison	455	13.821
Manatee	477	18,651
Marion	280	13,000
Monroe	....	....
Nassau	38	1,825
Orange	140	4,995
Osceola	185	4,785
Palm Beach	29	970
Pasco	531	13,495
Pinellas	273	17,190
Polk	221	11,070
Putnam	23	1.820
Santa Rosa	803	20,909
Seminole	4	100
St. Johns	743	41,585
St. Lucie	193	10,455
Sumter	21	1,662
*Suwannee	....	....
Taylor	152	5,020
Volusia	....	....
Wakulla	140	3,202
Walton	245	11,105
Washington	168	5.380
Totals	16,435	$ 630,335

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	COWS Kept for Milk Only. (On Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	2,233	$ 691,448
Baker	56	2,485
Bay	454	14,985
Bradford	283	13,493
Brevard	83	5,670
Calhoun	92	2,200
Citrus	400	2,841
Clay	133	2,995
Columbia	101	3,465
Dade	395	28,394
DeSoto	66	4,035
Duval	2,793	161,712
Escambia	1,415	54,203
Franklin	371	11,130
Gadsden	1,957	50,820
Hamilton	13	400
Hernando	48	2,960
Hillsboro	4,324	248,330
Holmes	2,353	60,475
Jackson	4,219	41,760
Jefferson	976	24,854
Lafayette	913	18,754
Lake	881	37,028
Lee	186	8,615
Leon	3,378	72,114
Levy	99	4,577
Liberty	458	10,649
Madison	909	24,060
Manatee	210	11,820
Marion	298	13,890
Monroe	57	7,254
Nassau	129	3,120
Orange	732	37,166
Osceola	400	21,095
Palm Beach	272	2,865
Pasco	958	29,272
Pinellas	415	26,830
Polk	353	19,625
Putnam	538	28,700
Santa Rosa	944	30,384
Seminole	274	14,735
St. Johns	943	59,760
St. Lucie	95	7,150
Sumter	152	5,841
*Suwannee	....	....
Taylor	31	348
Volusia	905	48,795
Wakulla	456	6,140
Walton	2,332	46,491
Washington	1,600	27,478
Totals	41,683	$ 2,054,111

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	CATTLE. Movement During Period—All Ages. Sold Living.	
	NUMBER.	VALUE.
Alachua	7,903	$ 135,185
Baker	426	7,644
Bay	72	1,076
Bradford	6,685	107,840
Brevard	25	377
Calhoun	36	1,370
Citrus	989	14,259
Clay	611	8,732
Columbia	1,112	17,007
Dade	89	2,160
DeSoto	11,692	146,472
Duval	864	11,562
Escambia	1,337	20,105
Franklin	145	3,625
Gadsden	218	2 995
Hamilton	1,217	17,730
Hernando	....	....
Hillsboro	306	4,065
Holmes	4,124	58,556
Jackson	2,138	19,789
Jefferson	831	5,070
Lafayette	4,234	63,249
Lake	2.040	23,713
Lee	10,758	202,730
Leon	249	4,276
Levy	457	5,879
Liberty	737	8,999
Madison	2,338	24,877
Manatee	1,397	12,282
Marion	1,615	21,450
Monroe	....	....
Nassau	322	4,350
Orange	3,121	45,413
Osceola	9,649	171,455
Palm Beach	....	....
Pasco	1,499	19,278
Pinellas	57	6,123
Polk	1,222	18,750
Putnam	554	8,310
Santa Rosa	3,683	52,200
Seminole	2	35
St. Johns	3,322	31,373
St. Lucie	107	2,144
Sumter	2,516	27,633
*Suwannee	....	....
Taylor	1,735	21,996
Volusia	....	....
Wakulla	673	6,512
Walton	1.170	15,339
Washington	2.030	25,220
Totals	96.307	$ 1.409.205

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	CATTLE. Movement During Period—All Ages. Purchased.	
	NUMBER.	VALUE.
Alachua	16,531	$ 81,265
Baker	410	6,975
Bay	851	15,270
Bradford	4,964	69,560
Brevard	5	70
Calhoun		
Citrus	1,031	16,412
Clay	35	660
Columbia	1,653	15,864
Dade	734	15,077
DeSoto	2,087	25,533
Duval	15	595
Escambia	957	11,459
Franklin	1,005	25,125
Gadsden	114	1,505
Hamilton	11	100
Hernando		
Hillsboro	537	5,595
Holmes	3,119	38,116
Jackson	1,030	11,656
Jefferson	650	9,617
Lafayette	3,138	43,132
Lake	3,018	33,413
Lee		
Leon	21	425
Levy	89	1,601
Liberty	219	1,933
Madison	1,308	13,118
Manatee	411	4,910
Marion	4,770	84,400
Monroe		
Nassau	305	3,120
Orange	983	14,880
Osceola	19,884	278,829
Palm Beach	2,000	28,000
Pasco	967	8,958
Pinellas	1,504	25,225
Polk	753	9,106
Putnam	195	1,930
Santa Rosa	827	10,436
Seminole		
St. Johns	2,850	42,750
St. Lucie		
Sumter	559	5,891
*Suwannee		
Taylor	1,402	16,216
Volusia		
Wakulla	970	10,620
Walton	417	5,304
Washington	975	11,084
Totals	83,304	$ 1.005,735

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	CATTLE. Movement During Period—All Ages. Slaughtered.	
	NUMBER.	VALUE.
Alachua	4,406	$ 87,361
Baker	510	6,700
Bay	852	19,510
Bradford	1,433	24,222
Brevard	14	280
Calhoun	1	10
Citrus	981	14,621
Clay	237	3,665
Columbia	1,362	16,109
Dade	735	15,170
DeSoto	1,066	15,656
Duval	332	9,960
Escambia	627	10,814
Franklin	1,405	35,125
Gadsden	74	1,260
Hamilton	2	20
Hernando	2	50
Hillsboro	7,508	97,654
Holmes	242	4,097
Jackson	1,157	17,861
Jefferson	176	1,863
Lafayette	121	1,969
Lake	2,098	38,836
Lee	....	....
Leon	32	390
Levy	318	2,262
Liberty	160	2,555
Madison	822	15,836
Manatee	603	9,633
Marion	3,550	128,900
Monroe	....	....
Nassau	570	4,450
Orange	761	15,240
Osceola	2,798	62,950
Palm Beach	1,200	24,600
Pasco	1,741	28,171
Pinellas	1,542	36,411
Polk	2,189	34,791
Putnam	1,913	42,504
Santa Rosa	906	13,196
Seminole	1,100	20,000
St. Johns	4,059	79,568
St. Lucie	3,640	72,800
Sumter	105	1,875
*Suwannee	....	....
Taylor	2	25
Volusia	....	....
Wakulla	685	8,331
Walton	343	9,035
Washington	387	5,947
Totals	54,767	$ 1,042,283

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	CATTLE. Movement During Period—All Ages. Died of Disease.	
	NUMBER.	VALUE.
Alachua	20	$ 480
Baker	2	24
Bay	....	....
Bradford	503	5,162
Brevard	....	....
Calhoun	22	210
Citrus	467	4,738
Clay	50	530
Columbia	27	275
Dade	2	150
DeSoto	455	1,403
Duval	6	95
Escambia	87	1,217
Franklin	16	400
Gadsden	64	740
Hamilton	18	183
Hernando	....	....
Hillsboro	2	38
Holmes	35	490
Jackson	248	2,098
Jefferson	49	485
Lafayette	2,259	20,057
Lake	183	3,020
Lee	....	....
Leon	95	995
Levy	37	415
Liberty	48	555
Madison	95	821
Manatee	5	125
Marion	....	....
Monroe	....	....
Nassau	50	500
Orange	54	750
Osceola	36	540
Palm Beach	....	....
Pasco	788	11,346
Pinellas	....	....
Polk	....	....
Putnam	41	420
Santa Rosa	275	3,606
Seminole	....	....
St. Johns	178	3,231
St. Lucie	....	....
Sumter	178	1,655
*Suwannee	....	....
Taylor	1	10
Volusia	....	....
Wakulla	117	1,243
Walton	73	693
Washington	175	2,233
Totals	6,761	$ 70,933

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	CATTLE. Movement During Period—All Ages. Died of Exposure to Weather.	
	NUMBER.	VALUE.
Alachua	7	$ 90
Baker	5	20
Bay	3	30
Bradford	510	5,232
Brevard	...	...
Calhoun	...	...
Citrus	58	620
Clay	273	3,165
Columbia	133	1,107
Dade	...	...
DeSoto	...	...
Duval	13	205
Escambia	154	1,732
Franklin	21	525
Gadsden	1	10
Hamilton	49	139
Hernando	7	200
Hillsboro	2	25
Holmes	90	1,004
Jackson	70	460
Jefferson	69	581
Lafayette	92	820
Lake	73	941
Lee	...	...
Leon	50	566
Levy	171	1.433
Liberty	26	255
Madison	20	173
Manatee	...	...
Marion	...	...
Monroe	...	...
Nassau	17	170
Orange	54	676
Osceola	479	6,095
Palm Beach	...	...
Pasco	108	606
Pinellas	20	200
Polk	176	2.495
Putnam	63	630
Santa Rosa	276	3,311
Seminole	2	40
St. Johns	7	105
St. Lucie	...	...
Sumter	400	4,000
*Suwannee	...	...
Taylor	437	3,573
Volusia	...	...
Wakulla	78	1,175
Walton	89	982
Washington	119	1.830
Totals	4.231	$ 45.221

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	HOGS—ALL AGES. (On Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	30,988	$ 114,389
Baker	12,325	47,015
Bay	6,571	16,849
Bradford	24,938	90,959
Brevard	1,353	4,227
Calhoun	14,072	28,020
Citrus	7,392	18,336
Clay	6,695	16,240
Columbia	30,100	91,947
Dade	1,195	11,446
DeSoto	16,504	40,629
Duval	14,270	54,300
Escambia	14,230	48,384
Franklin	5,337	32,022
Gadsden	16,245	40,543
Hamilton	21,195	43,435
Hernando	4,982	24,355
Hillsboro	14,498	57,798
Holmes	22,293	66,764
Jackson	61,412	122,824
Jefferson	16,609	62 989
Lafayette	27,182	63 098
Lake	6,829	19,750
Lee	8,686	34,708
Leon	14,228	41,681
Levy	17,785	38,703
Liberty	12,863	32,080
Madison	24,163	76,127
Manatee	8,969	15,637
Marion	4,450	22,250
Monroe	....	....
Nassau	11,821	38,154
Orange	4,193	18,570
Osceola	5,352	13,781
Palm Beach	1,412	7,368
Pasco	10,453	67,615
Pinellas	1,717	9,402
Polk	6,745	23,558
Putnam	7,550	68,250
Santa Rosa	29,841	83,678
Seminole	4,786	33,185
St. Johns	19,259	192,890
St. Lucie	2,884	10,616
Sumter	9,923	35,887
*Suwannee	....	....
Taylor	16,859	54,322
Volusia	13,970	33,847
Wakulla	11,829	43,261
Walton	23,763	92,172
Washington	11,656	56,747
Totals	662,372	$ 2,260,808

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	HOGS. Movement During Period—All Ages. Slaughtered.	
	NUMBER.	VALUE.
Alachua	18,749	$ 121,187
Baker	3,263	24,708
Bay	430	3,345
Bradford	13,809	155,337
Brevard	1	7
Calhoun	11	22
Citrus	3,529	28,823
Clay	271	1,455
Columbia	3,746	18,093
Dade	635	13,127
DeSoto	1,469	11,040
Duval	509	10,980
Escambia	4,841	39,568
Franklin	[illegible]	6,540
Gadsden	9,530	67,711
Hamilton	10,414	96,200
Hernando	....	....
Hillsboro	2,023	17,591
Holmes	12,191	122,822
Jackson	42,606	321,426
Jefferson	7,450	59,079
Lafayette	9,274	84,667
Lake	2,608	19,829
Lee	207	1,240
Leon	1,959	10,386
Levy	8,994	164,194
Liberty	4,283	34,713
Madison	14,691	121,083
Manatee	222	1,262
Marion	4,970	49,700
Monroe	....	....
Nassau	2,083	10,946
Orange	211	1,983
Osceola	1,855	12,198
Palm Beach	616	4,992
Pasco	3,784	20,359
Pinellas	1,416	11,129
Polk	1,098	18,396
Putnam	2,846	49,101
Santa Rosa	11,797	91,978
Seminole	520	5,575
St. Johns	4,121	48,542
St. Lucie	526	6,820
Sumter	3,118	29,959
*Suwannee	....	....
Taylor	10,153	53,118
Volusia	5,123	39,170
Wakulla	5,539	39,589
Walton	4,141	44,799
Washington	7,787	71,137
Totals	250,499	$ 2,163,926

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	HOGS. Movement During Period—All Ages. Sold Living.	
	NUMBER.	VALUE.
Alachua	1,276	$ 5,484
Baker	351	1,732
Bay	113	738
Bradford	3,662	17,453
Brevard	...	...
Calhoun	1	2
Citrus	781	1,814
Clay	137	563
Columbia	351	3,068
Dade	41	723
DeSoto	454	1,442
Duval	460	1,949
Escambia	630	2,658
Franklin	158	948
Gadsden	119	342
Hamilton	570	2,981
Hernando	...	...
Hillsboro	681	4,787
Holmes	720	2,249
Jackson	619	2,940
Jefferson	775	3,845
Lafayette	9,380	22,425
Lake	575	2,605
Lee	1,011	5,143
Leon	167	818
Levy	627	2,027
Liberty	1,061	3,750
Madison	1,652	10,829
Manatee	97	235
Marion	...	...
Monroe	...	...
Nassau	79	301
Orange	32	311
Osceola	613	2,086
Palm Beach	88	760
Pasco	4,756	4,639
Pinellas	176	973
Polk	14	40
Putnam	500	4,678
Santa Rosa	1,168	3,887
Seminole	13	115
St. Johns	417	5,891
St. Lucie	253	13,301
Sumter	670	2,477
*Suwannee	...	...
Taylor	2,492	9,837
Volusia	...	...
Wakulla	859	7,524
Walton	339	1,154
Washington	853	2,447
Totals	39,791	$ 163,971

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	HOGS. Movement During Period—All Ages Died of Disease.	
	NUMBER.	VALUE.
Alachua	11,079	$ 14,302
Baker	169	414
Bay	139	320
Bradford	5,664	18,697
Brevard	....	....
Calhoun	195	378
Citrus	7,626	21,920
Clay	567	1,374
Columbia	1,359	4,350
Dade	8	107
DeSoto	413	1,291
Duval	27	85
Escambia	1,866	4,822
Franklin	152	918
Gadsden	1,202	3,498
Hamilton	4,160	8,830
Hernando	1,665	7,540
Hillsboro	96	323
Holmes	1,492	3,598
Jackson	18,139	40,782
Jefferson	979	3,845
Lafayette	15,851	33,253
Lake	2,484	4,613
Lee	5	15
Leon	1,020	3,415
Levy	3,263	6,584
Liberty	981	1,950
Madison	4,984	9,907
Manatee	30	60
Marion	2,141	10,705
Monroe	....	....
Nassau	319	1,056
Orange	5	19
Osceola	1,137	2.450
Palm Beach	3	18
Pasco	2,451	6,101
Pinellas	188	595
Polk	1,258	3,940
Putnam	1.440	13,529
Santa Rosa	3,633	10,067
Seminole	40	190
St. Johns	484	5,877
St. Lucie	....	....
Sumter	6,678	11,463
*Suwannee	....	....
Taylor	2,251	5,380
Volusia	....	....
Wakulla	1,488	2,971
Walton	858	1,638
Washington	2.361	5.554
Totals	112.350	$ 278 742

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement During Period—All Ages. Purchased.	
	NUMBER.	VALUE.
Alachua		$
Baker		
Bay	52	130
Bradford	59	169
Brevard		
Calhoun		
Citrus		
Clay		
Columbia		
Dade		
DeSoto		
Duval		
Escambia	193	476
Franklin	29	174
Gadsden	30	60
Hamilton		
Hernando		
Hillsboro	120	377
Holmes	215	425
Jackson	9	18
Jefferson	200	400
Lafayette		
Lake	100	200
Lee	50	100
Leon		
Levy	20	35
Liberty		
Madison	8	13
Manatee	1.000	2,000
Marion	5,150	10,300
Monroe		
Nassau	42	94
Orange		
Osceola	8,702	24,685
Palm Beach		
Pasco	2	12
Pinellas		
Polk		
Putnam		
Santa Rosa	53	145
Seminole		
St. Johns	10	40
St. Lucie		
Sumter		
*Suwannee		
Taylor	1.205	3,220
Volusia		
Wakulla	3	3
Walton	1,850	3,700
Washington	74	148
Totals	19.376	$ 46,924

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement During Period—All Ages Sold Living.	
	NUMBER.	VALUE.
Alachua	15	$ 45
Baker	290	580
Bay	40	40
Bradford	3	6
Brevard		
Calhoun		
Citrus		
Clay	470	940
Columbia		
Dade		
DeSoto	30	90
Duval	3	15
Escambia	88	182
Franklin	2	12
Gadsden	21	30
Hamilton		
Hernando		
Hillsboro		
Holmes	41	82
Jackson	13	26
Jefferson		
Lafayette		
Lake	525	1,050
Lee		
Leon	66	138
Levy	15	30
Liberty	100	200
Madison	4	10
Manatee		
Marion	3,450	9,300
Monroe		
Nassau		
Orange		
Osceola	4,100	12,300
Palm Beach		
Pasco	22	55
Pinellas		
Polk		
Putnam		
Santa Rosa	1,097	3,326
Seminole		
St. Johns	7	28
St. Lucie		
Sumter	175	350
*Suwannee		
Taylor		
Volusia		
Wakulla	12	24
Walton	86	172
Washington	60	120
Totals	10,735	$ 29,151

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement During Period—All Ages. Slaughtered.	
	NUMBER.	VALUE.
Alachua	10	$ 30
Baker	......	......
Bay	27	108
Bradford	3	9
Brevard	......	......
Calhoun	......	......
Citrus	64	175
Clay	11	39
Columbia	......	......
Dade	......	......
DeSoto	10	30
Duval	......	......
Escambia	24	71
Franklin	4	24
Gadsden	1	3
Hamilton	12	25
Hernando	......	......
Hillsboro	......	......
Holmes	47	94
Jackson	9	18
Jefferson	4	20
Lafayette	......	......
Lake	100	400
Lee	......	......
Leon	......	......
Levy	5	40
Liberty	15	30
Madison	3	6
Manatee	35	137
Marion	1,950	7,360
Monroe	......	......
Nassau	2	4
Orange	......	......
Osceola	200	700
Palm Beach	......	......
Pasco	46	137
Pinellas	......	......
Polk	......	......
Putnam	......	......
Santa Rosa	86	368
Seminole	......	......
St. Johns	35	115
St. Lucie	......	......
Sumter	......	......
*Suwannee	......	......
Taylor	2	4
Volusia	......	......
Wakulla	......	......
Walton	7	24
Washington	32	65
Totals	2,744	$ 10.036

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement During Period—All Ages. Died of Disease.	
	NUMBER.	VALUE.
Alachua		$
Baker		
Bay		
Bradford	3	6
Brevard		
Calhoun		
Citrus	10	25
Clay		
Columbia		
Dade		
DeSoto	50	100
Duval		
Escambia	82	179
Franklin		
Gadsden	1	1
Hamilton		
Hernando		
Hillsboro		
Holmes	108	216
Jackson	38	65
Jefferson	4	8
Lafayette		
Lake	25	50
Lee		
Leon	10	15
Levy		
Liberty	81	162
Madison		
Manatee		
Marion		
Monroe		
Nassau	1	2
Orange		
Osceola		
Palm Beach		
Pasco	290	530
Pinellas		
Polk	30	75
Putnam		
Santa Rosa	409	1,193
Seminole		
St. Johns	9	35
St. Lucie		
Sumter	150	300
*Suwannee		
Taylor	25	50
Volusia		
Wakulla	15	30
Walton	36	67
Washington	156	262
Totals	1,533	$ 3,374

***Not reported.**

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement During Period—All Ages. Killed by Dogs.	
	NUMBER.	VALUE.
Alachua	35	$ 105
Baker	120	240
Bay		
Bradford	1	2
Brevard		
Calhoun	100	200
Citrus	30	75
Clay	60	120
Columbia		
Dade		
DeSoto		
Duval		
Escambia	284	631
Franklin		
Gadsden	17	30
Hamilton		
Hernando	20	60
Hillsboro		
Holmes	3,009	6,018
Jackson	166	260
Jefferson	36	72
Lafayette		
Lake	25	50
Lee		
Leon	45	100
Levy		
Liberty	145	285
Madison		
Manatee	3	6
Marion		
Monroe		
Nassau	5	10
Orange		
Osceola		
Palm Beach		
Pasco	90	195
Pinellas		
Polk		
Putnam		
Santa Rosa	86	2,510
Seminole		
St. Johns		
St. Lucie		
Sumter	92	196
*Suwannee		
Taylor	60	120
Volusia		
Wakulla	58	66
Walton	34	48
Washington	376	662
Totals	4,897	$ 12,061

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	SHEEP—SHEEP AND LAMBS. Movement During Period—All Ages. Died of Exposure to Weather.	
	NUMBER.	VALUE.
Alachua		$
Baker		
Bradford		
Brevard		
Calhoun		
Citrus		
Clay		
Columbia		
Dade		
DeSoto		
Duval		
Escambia	285	570
Franklin		
Gadsden		
Hamilton	1	5
Hernando		
Hillsboro		
Holmes	447	894
Jackson		
Jefferson	80	104
Lafayette		
Lake		
Lee		
Leon		
Levy		
Liberty		
Madison		
Manatee		
Marion		
Monroe		
Nassau		
Orange		
Osceola	350	1,050
Palm Beach		
Pasco		
Pinellas		
Polk		
Putnam		
Santa Rosa	443	1,329
Seminole		
St. Johns	3	12
St. Lucie		
Sumter		
*Suwannee		
Taylor		
Volusia		
Wakulla	1	1
Walton	44	75
Washington	75	100
Totals	1,729	$ 4,140

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	SHEEP. (All Ages on Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	1,150	$ 2,955
Baker	995	1,780
Bay	3,355	6,867
Bradford	89	129
Brevard	....	....
Calhoun	4,000	7,940
Citrus	136	300
Clay	720	1,440
Columbia	170	289
Dade	....	....
DeSoto	711	1,771
Duval	85	278
Escambia	5,811	11,856
Franklin	250	1,500
Gadsden	216	358
Hamilton	188	325
Hernando	100	300
Hillsboro	1,502	3,605
Holmes	11,725	23,450
Jackson	1,739	2,077
Jefferson	147	951
Lafayette	....	....
Lake	....	....
Lee	....	....
Leon	713	1,456
Levy	105	210
Liberty	1,957	3,710
Madison	63	136
Manatee	440	850
Marion	12,700	25,400
Monroe	....	....
Nassau	1,504	3,218
Orange	1,502	4,510
Osceola	12,934	38,120
Palm Beach	....	....
Pasco	333	1,066
Pinellas	....	....
Polk	1,035	4,115
Putnam	....	....
Santa Rosa	20,719	57.357
Seminole	....	....
St. Johns	1,800	7,150
St. Lucie	....	....
Sumter	1,576	3,310
*Suwannee	....	....
Taylor	....	....
Volusia	6,075	21,355
Wakulla	319	378
Walton	18,351	37,177
Washington	4,988	9,002
Totals	120.203	$ 286.700

*Not reported.

TABLE No. 4—LIVE STOCK ON HAND, 1913-1914.—*Continued.*

COUNTIES.	GOATS. (All Ages on Hand July 1, 1914.)	
	NUMBER.	VALUE.
Alachua	1,639	$ 1,894
Baker	1,793	1,237
Bay	419	369
Bradford	3,291	1,763
Brevard	10	41
Calhoun	1,250	667
Citrus	1,039	1,077
Clay	397	199
Columbia	1,284	1,072
Dade	7	20
DeSoto	25	32
Duval	4.143	2,462
Escambia	2,717	2,230
Franklin	1,438	4,314
Gadsden	496	342
Hamilton	287	307
Hernando	978	980
Hillsboro	1,889	2.166
Holmes	966	966
Jackson	3,379	2,047
Jefferson	1,242	1,023
Lafayette	1,369	894
Lake	40	63
Lee	3	15
Leon	936	918
Levy	907	858
Liberty	457	336
Madison	737	417
Manatee	226	349
Marion	3,030	3,030
Monroe	....	....
Nassau	317	480
Orange	6	410
Osceola	380	736
Palm Beach	2	9
Pasco	1,123	1,561
Pinellas	....	....
Polk	1,179	1,883
Putnam	777	1,555
Santa Rosa	3,099	2,630
Seminole	50	50
St. Johns	682	1,704
St. Lucie	....	....
Sumter	694	694
*Suwannee	....	....
Taylor	676	673
Volusia	121	310
Wakulla	672	546
Walton	1,138	573
Washington	1,965	1.359
Totals	49,275	$ 47,261

*Not reported.

TABLE No. 5—POULTRY AND PRODUCTS, 1913-1914.

COUNTIES.	POULTRY—ALL AGES.			
	Common Barnyard.		All Others.	
	No.	VALUE.	No.	VALUE.
Alachua	86,489	$ 38,177	5,674	$ 2,039
Baker	23,110	11,901	3,207	2,108
Bay	40,169	17,386	862	763
Bradford	95,364	34,549	1,038	1,175
Brevard	14,103	11,273	1,704	1,899
Calhoun	31,814	9,481	400	80
Citrus	27,841	13,918	2,016	1,641
Clay	20,904	10,452	85	80
Columbia	20,986	10,836	335	335
Dade	62,486	42,484	800	832
DeSoto	24,921	13,386	....	....
Duval	252,307	205,752	90,970	159,287
Escambia	120,847	50,670	17,582	14,818
Franklin	47,830	28,698	3,037	2,277
Gadsden	119,000	29,750	453	415
Hamilton	110,978	27,967	421	451
Hernando	17,498	7,581	1,331	1,940
Hillsboro	290,087	176,751	9,386	5,128
Holmes	72,397	14,610	1,289	837
Jackson	90,978	72,537	....	....
Jefferson	44,041	17,751	185	62
Lafayette	28,213	11,231	248	442
Lake	54,136	31,245	1,764	2,050
Lee	23,222	17,700	111	197
Leon	9,956	3,793	46,980	19,146
Levy	29,176	14,054	455	267
Liberty	23,493	9,193	206	204
Madison	54,267	16,483	814	535
Manatee	2,784	1,377	18,028	10,093
Marion	16,580	11,614	2,063	1,790
Monroe	....	....	....	....
Nassau	32,410	16,818	230	93
Orange	42,705	23,190	1,138	982
Osceola	33,433	13,643	795	456
Palm Beach	65,497	56,524	5,689	3,329
Pasco	42,224	21,259	12,411	12,411
Pinellas	30,689	29,471	245	498
Polk	172,687	28,854	1,212	1,375
Putnam	50,630	25,971	1,322	1,853
Santa Rosa	91,906	41,033	967	533
Seminole	68,092	52,694	5,600	2,200
St. Johns	94,656	47,328	981	863
St. Lucie	50	35	28,111	21,763
Sumter	27,435	11,864	....	....
*Suwannee	....	....	....	....
Taylor	20,309	8,988	712	423
Volusia	89,330	35,732	3,013	3,691
Wakulla	28,720	14,952	....	....
Walton	71,345	18,243	1,452	1,343
Washington	49,404	14,128	2,055	1,452
Totals	2,867,499	$1,423,327	277,377	$ 284,156

*Not reported.

TABLE No. 5—POULTRY AND PRODUCTS, 1913-1914.—*Continued.*

COUNTIES.	EGGS—SOLD AND USED.	
	DOZENS.	VALUE.
Alachua	317,792	$ 65,960
Baker	26,446	7,071
Bay	76,532	19,119
Bradford	19,467	41,966
Brevard	74,584	24,260
Calhoun	28,434	5,851
Citrus	111,142	26,595
Clay	73,757	18,439
Columbia	75,857	15,604
Dade	248,212	104,830
DeSoto	63,495	14,809
Duval	2,185,154	665,031
Escambia	332,895	89,749
Franklin	3,435	858
Gadsden	98,330	19,666
Hamilton	159,323	31,498
Hernando	16,605	5,240
Hillsboro	2,171,529	613,509
Holmes	101,220	15,371
Jackson	378,834	84,309
Jefferson	158,247	28,405
Lafayette	78,578	15,491
Lake	200,010	52,404
Lee	11,668	2,946
Leon	65,739	20,777
Levy	85,394	23,826
Liberty	82,134	17,050
Madison	80,324	17,788
Manatee	32,244	9,061
Marion	83,890	24,927
Monroe	....	....
Nassau	106,287	21,286
Orange	221,630	57,051
Osceola	142,226	35,556
Palm Beach	20,484	10,735
Pasco	174,844	41,688
Pinellas	179,911	56,176
Polk	368,143	78,375
Putnam	357,490	111,676
Santa Rosa	207,197	45,464
Seminole	364,545	91,948
St. Johns	564,223	141,055
St. Lucie	112,421	38,747
Sumter	77,733	19,392
*Suwannee	....	....
Taylor	360	109
Volusia	401,550	74,064
Wakulla	78,784	14,685
Walton	114,108	19,846
Washington	111,790	17,255
Totals	11,044,997	$ 2,957,518

*Not reported.

TABLE No. 6—DAIRY PRODUCTS, 1913-1914.

COUNTIES.	MILK—SOLD AND USED.	
	GALLONS.	VALUE.
Alachua	687,775	191,593
Baker	8,950	3,395
Bay	148,950	47,079
Bradford	101.017	26,750
Brevard	38,140	16,353
Calhoun	1,355	170
Citrus	129,964	25,252
Clay	21,858	7,648
Columbia	17,870	6,002
Dade	148,653	63,380
DeSoto	18,670	8,198
Duval	1,567,974	522,838
Escambia	459,314	125,896
Franklin	742	296
Gadsden	519,800	103,960
Hamilton	3,000	500
Hernando	6,900	4,025
Hillsboro	1,869,985	758,621
Holmes	291,265	58,253
Jackson	478,569	236,226
Jefferson	116,450	30,748
Lafayette	84,272	34,648
Lake	216,659	83,437
Lee	45,920	18,768
Leon	127,140	40,035
Levy	13,891	3,395
Liberty	95,225	22,615
Madison	308,011	111,953
Manatee	63,450	25,910
Marion	71,600	14,370
Monroe	21,974	22,976
Nassau	17,305	5,126
Orange	367,075	146,074
Osceola	182,127	40,851
Palm Beach	173,520	76,118
Pasco	113,355	51,694
Pinellas	158,075	62,540
Polk	110,210	43,388
Putnam	191,750	76,700
Santa Rosa	302,822	83,347
Seminole	138,470	52,910
St. Johns	21,261	8,504
St. Lucie	155,527	19,893
Sumter	73,390	29,382
*Suwannee	....	....
Taylor	420	48
Volusia	487,950	197,320
Wakulla	24,265	9,706
Walton	355,101	76,640
Washington	237,961	89,793
Totals	10,795,927	$ 3,685,334

*Not reported.

TABLE No. 6—DAIRY PRODUCTS, 1913-1914.—*Continued.*

COUNTIES.	BUTTER—SOLD AND USED.	
	POUNDS.	VALUE.
Alachua	184,648	$ 54,330
Baker	240	100
Bay	2,798	10,998
Bradford	17,361	5,795
Brevard	1,154	428
Calhoun	840	252
Citrus	22,642	14,648
Clay	2.886	678
Columbia	2,770	934
Dade	7,945	3,035
DeSoto	790	310
Duval	15.580	6,032
Escambia	50,358	13,172
Franklin	371	148
Gadsden	154,540	38,635
Hamilton	850	257
Hernando	....	....
Hillsboro	167.991	55.997
Holmes	61.656	15.414
Jackson	242.131	41,618
Jefferson	35.405	8,289
Lafayette	12,310	4,476
Lake	48.760	18,878
Lee	100	40
Leon	38.489	12,695
Levy	6,304	1,861
Liberty	24,206	7,250
Madison	4,479	1,250
Manatee	325	109
Marion	16,350	4,924
Monroe	....	....
Nassau	2.445	767
Orange	34.557	13.624
Osceola	21,590	8.636
Palm Beach	10.115	5,057
Pasco	31,120	13,396
Pinellas	10.675	4,190
Polk	1.545	505
Putnam	26.325	10,530
Santa Rosa	88,030	26,402
Seminole	2,715	970
St. Johns	163	148
St. Lucie	10,390	3.281
Sumter	13,943	4,184
*Suwannee	....	....
Taylor	....	....
Volusia	....	....
Wakulla	6.586	1,870
Walton	106,202	29,220
Washington	....	....
Totals	1.490.680	$ 445.333

*Not reported.

TABLE No. 6—DAIRY PRODUCTS, 1913-1914.—*Continued.*

COUNTIES.	CHEESE—SOLD AND USED.	
	POUNDS.	VALUE.
Alachua	75	$ 25
Baker		
Bay		
Bradford		
Brevard		
Calhoun		
Citrus		
Clay	52	13
Columbia		
Dade		
DeSoto		
Duval		
Escambia		
Franklin		
Gadsden		
Hamilton		
Hernando		
Hillsboro	140	40
Holmes		
Jackson		
Jefferson		
Lafayette		
Lake		
Lee		
Leon		
Levy		
Liberty		
Madison		
Manatee		
Marion		
Monroe		
Nassau		
Orange		
Osceola		
Palm Beach		
Pasco	600	180
Pinellas		
Polk		
Putnam		
Santa Rosa		
Seminole		
St. Johns		
St. Lucie		
Sumter		
*Suwannee		
Taylor		
Volusia		
Wakulla		
Walton		
Washington		
Totals	867	$ 258

*Not reported.

TABLE No. 7—MISCELLANEOUS PRODUCTS, 1913-1914.

COUNTIES.	BEESWAX.	
	POUNDS.	VALUE.
Alachua	734	$ 165
Baker	....	....
Bay	277	63
Bradford	400	81
Brevard	....	....
Calhoun	....	....
Citrus	....	....
Clay	....	....
Columbia	200	60
Dade	....	....
DeSoto	1,010	120
Duval	....	....
Escambia	231	66
Franklin	786	220
Gadsden	109	27
Hamilton	....	....
Hernando	300	75
Hillsboro	....	....
Holmes	611	143
Jackson	....	....
Jefferson	180	25
Lafayette	60	15
Lake	66	25
Lee	....	....
Leon	1,362	255
Levy	....	....
Liberty	2,521	608
Madison	50	9
Manatee	441	207
Marion	70	26
Monroe	....	....
Nassau	30	8
Orange	50	18
Osceola	....	....
Palm Beach	....	....
Pasco	140	66
Pinellas	30	7
Polk	....	....
Putnam	1,260	375
Santa Rosa	342	89
Seminole	70	20
St. Johns	....	....
St. Lucie	150	45
Sumter	....	....
*Suwannee	....	....
Taylor	200	32
Volusia	....	....
Wakulla	905	226
Walton	308	77
Washington	724	179
Totals	13,617	$ 3,332

*Not reported.

TABLE No. 7—MISCELLANEOUS PRODUCTS, 1913-1914.—*Continued.*

COUNTIES.	HONEY.		
	STANDS OF BEES.	POUNDS.	VALUS.
Alachua	223	7,380	$ 1,530
Baker	....	....	....
Bay	389	11,755	1,653
Bradford	664	15,522	1,996
Brevard	208	1,540	565
Calhoun	3,104	106,085	10,733
Citrus	12	300	30
Clay	93	1,185	172
Columbia	107	2,130	238
Dade	644	24,200	3,442
DeSoto	250	25,200	2,520
Duval	....	....	....
Escambia	1,560	27,980	3,091
Franklin	1,532	12,256	1,526
Gadsden	265	4,340	436
Hamilton	....	....	....
Hernando	100	1,600	175
Hillsboro	60	4,825	588
Holmes	649	7,050	705
Jackson	461	4,600	1,260
Jefferson	105	1,133	179
Lafayette	798	43,008	4,764
Lake	312	5,439	675
Lee	75	2,625	460
Leon	115	2,230	250
Levy	14	320	40
Liberty	3,380	135,600	16,620
Madison	304	7,697	1,440
Manatee	598	45,250	4,252
Marion	300	9,000	1,350
Monroe	....	....	....
Nassau	123	2,430	327
Orange	245	7,130	628
Osceola	545	4,275	855
Palm Beach	248	28,080	3,004
Pasco	256	6,600	678
Pinellas	250	7,065	764
Polk	115	3,500	639
Putnam	520	25,981	2,601
Santa Rosa	768	35,649	3,569
Seminole	460	27,500	2,750
St. Johns	1,192	42,700	4,392
St. Lucie	228	44,850	4,401
Sumter	123	2,096	368
*Suwannee	....	....	....
Taylor	177	1,390	140
Volusia	2,410	102,115	9,480
Wakulla	604	16,009	1,920
Walton	635	17,156	1,717
Washington	1,149	23,279	2,295
Totals	26,370	908,055	$ 101,218

*Not reported.

YEAR 1911-12.

Table No. 8—Total Acreage of Crops.

Field Crops, acres	937,264
Vegetable and Garden Products, acres	63,241
Total acreage in cultivation	1,000,505

Table No. 9—Total Value of Farm Products.

Table No. 1—Field Corps	$16,051,730
Table No. 2—Vegetable and Garden Products	8,056,685
Table No. 3—Fruit Products	10,025,163
Table No. 4—Live Stock on hand	23,510,479
Table No. 5—Poultry and Products	3,527,286
Table No. 6—Dairy Products	2,518,241
Table No. 7—Miscellaneous Products	133,713
Total	$63,823,297

YEAR 1913-14.

Table No. 8—Total Acreage of Crops.

Field Crops, acres	1,081,434
Vegetable and Garden Products, acres	93,413
Total acreage in cultivation	1,174,847

Table No. 9—Total Value of All Farm Products.

Table No. 1—Field Crops	$18,861,389
Table No. 2—Vegetable and Garden Products	13,185,904
Table No. 3—Fruit Products	13,447,435
Table No. 4—Live Stock on Hand	29,541,931
Table No. 5—Poultry and Products	4,665,001
Table No. 6—Dairy Products	4,130,925
Table No. 7—Apiary Products	104,550
Total	$83,937,135

METEOROLOGICAL REPORT.

NOTE.

Since writing the foregoing notice of the Meteorological report, we are informed by Prof. A. J. Mitchell, Director of the Climatological Service of the U. S. Weather Bureau for Florida, that the Florida report for 1914 will not be completed in time to include it in this report. This is owing to the losses by the fire of January 3rd last. The delayed report will therefore be published later in the Quarterly Bulletin of the Department.

The Climatological report for 1913 follows in place of that for 1914.

U. S. Department of Agriculture,

CLIMATOLOGICAL SERVICE

of the

WEATHER BUREAU

Central Office: Washington, D. C.

FLORIDA SECTION,

Prof. A. J. Mitchell, Section Director,

Year, 1913.

ANNUAL SUMMARY, CLIMATOLOGICAL SERVICE, FLORIDA SECTION.

The leading features of the weather for the year 1913 in Florida were: Its average mildness, its deficient precipitation—only three of the twelve months had normal rainfall, or slightly above; and the generally ideal conditions that obtained during the harvest season. Another feature worthy of note is indicated by the fact that the minimum temperatures of November and December were lower than were those of January and February, whereas the converse is usually the case. Comparing the winter and the first spring month with the conditions that prevailed during the winter of 1912, it is found that the excess of temperature began as far back as July, 1912, except that November of that year was below normal; hence, it is seen that positive departures have been continuous for nine months, less one.

The warm winter of 1912-13 was unfavorable for the shipment of citrus fruit, as much decay resulted from the high temperatures and excessive humidity. The growing season of 1913 was mostly favorable. The deficient rainfall during the several months was not such as to cause serious consequences to staple agricultural crops, and the weather during the autumn was most favorable for harvesting purposes. The absence of normal rainfall resulted in some of the citrus fruit being smaller than usual.

The mean atmospheric pressure for the year was 30.08 inches; the highest recorded was 30.62 inches, at Jacksonville, on March 17; the lowest recorded was 29.56 inches, at Pensacola, on December 24.

The annual mean temperature was slightly above the normal. The highest annual mean was 77.3°, at Key West; the lowest, 67.4°, at Pensacola. The highest monthly mean was 84.7°, at Clermont, in July; the lowest, 53.0°, at Marianna, in February. The highest recorded was 104°, at Wausau, on July 18; the lowest, 23°, at Mount Pleasant on December 9 and Jasper on December 10.

The average annual precipitation, 48.02 inches, was considerably below the normal. The greatest annual total was 73.79 inches at Garniers; the least, 27.76 inches at Sand Key. The greatest local monthly amount was 22.87 inches, at Apalachicola, in September; the least, a trace, at Lake City in April and Rockwell in November. The greatest amount in any 24 hours was 8.52 inches, at Pensacola, in March. The average number of days with 0.01 inch or more was 102.

Southeast winds prevailed during the year. The highest velocity was 60 miles from the south at Pensacola on January 26.

The average number of clear days was 164; partly cloudy days, 132; cloudy, 69.

THE WEATHER BY MONTHS.

January.—The chief feature of the month was its remarkable mildness, being 8.2° above normal, and 2.7° warmer than December; in fact, it was the warmest January since 1892. The only cold spells of note occured on the 4th, 29th, and 30th, when frost formed over central portions of the peninsula. Rainfall was deficient, the bulk having fallen from the 1st to 3d, and on the 27th. The warm weather advanced the growth of vegetation. There was an unusual amount of fog.

February.—There was a continuation of the mild weather that set in during December. Normally, the month is warmer than January. In reality, however, the current month was 3.5° colder. It was devoid of damaging frost, the lowest temperature being 28°. The coldest weather occured on the 16th, and frost formed over northern portions on five days. Rain was frequent, well distributed, and generally above normal.

March.—The warm weather of the two previous months continued, on an average, during March. Minima in the 30's occured on several dates over the extreme northern counties. The month was rainy, the total being above the average—due mostly to heavy rains over small areas, particularly on the 3d, 10th, and 14th.

April.—The month was the first one of the year with negative values. It was warmer than normal during most of the first decade. There was a change to colder on the 12th, which persisted during much of the rest of the month. The lowest temperatures occured from the 13th to 16th. Rain was insufficient over most of the State; the bulk fell from the 11th to 13th.

May.—The moderately cool weather of April continued on an average throughout May. There were, however, decided extremes, a maximum of 100° and a minimum of 47° being the record. The nights were rather too cool for vegetation. Precipitation was deficient, the bulk of which fell from the 9th to 12th, 17 to 18, and on the 23d and 24th. The deficiency in rainfall approximated 1 inch.

JUNE.—Like May, the month was generally cool and dry. The deficient temperature was largely due to the unusually cool spell that prevailed during a part of the first and second decades, when minima of 50° occurred over portions of the extreme northern districts—surpassing all previous records, except 48° in 1905. Heavy rains fell from the 8th to 12th, although they were poorly distributed, and generally insufficient for the various crops.

JULY.—There was a reaction to slightly warmer weather, averaging above the normal. Warm periods were, chiefly, from the 14th to 19th, when a few stations recorded maxima of from 98° to 103°. The precipitation was deficient. The bulk of the month's rain fell as thundershowers, several of which developed considerable severity, resulting in one death and several prostrations.

AUGUST.—The month, as a whole, was slightly cooler and drier than the normal. No regular stations of the Bureau reported a temperature of 100°, and nocturnal temperatures were generally normal, or below. There were no unusually heavy local rains, and, as a consequence, crop conditions, previously promising, were well sustained. Showers occurred daily in some portion of the State.

SEPTEMBER.—Like August, the month was cooler and drier than usual. There were brief periods of both moderately cool and warm weather, with minima in the 40's at some northern stations, and maxima of 90° and above in the central portion of the State. Precipitation was deficient from 4 to 5 inches at some stations. An excess of 1 to 8 inches occured, however, over the extreme northwest—due to a disturbance in the Gulf of Mexico, which gave dangerously high wind squalls on the northwest coast.

October.—The month was drier and cooler than normal. The deficiency in temperature approximated 6° at some stations. The coldest weather occured generally on the 21st and 22d, when minima of 32°, and below, occurred in the interior of extreme northern counties with frost in central portions. Rainfall was deficient over most of the State—most pronounced on the east coast. The dry weather was ideal for harvesting the cotton crop, but the absence of normal rains militated somewhat against the citrus crop.

November.—The month, as a whole, was mild, but the first decade gave freezing weather over interior, central counties. The coldest period was from the 10th to 12th. The precipitation was 1.30 inches below normal, the dry weather proving ideal for harvesting purposes, although more rain was needed for citrus fruits.

December.—December was warm, although there were two periods of moderately cold weather, namely, from the 7th to 12th, and from the 25th to 27th. The lowest temperatures occurred generally on the 9th and 10th. Frost formed over the northern and central counties, resulting, however, in no serious damage. Precipitation, although averaging above normal, was poorly distributed and insufficient over much of the State.

Monthly Summary, 1913

MONTH.	TEMPERATURE. State Average.	Departure from Normal.	Highest.	Lowest.	PRECIPITATION. State Average.	Departure from Normal.	AVERAGE NUMBER OF DAYS. Rainy, 0.01 inch or more.	Clear.	Partly Cloudy.	Cloudy.
January	65.6	+8.2	90	30	1.91	—0.99	6	15	10	6
February ...	62.1	+2.2	90	28	4.78	+1.60	9	11	9	8
March	68.5	+2.4	91	32	5.43	+2.52	12	10	12	9
April	68.4	—1.1	93	38	2.02	—0.59	4	20	7	3
May	74.4	—1.3	100	47	3.16	—0.98	7	17	10	4
June	78.1	—1.4	103	50	5.28	—2.17	10	13	12	5
July	81.7	+0.7	104	61	5.36	—1.94	12	12	16	3
August	80.7	—0.5	101	62	6.87	—0.53	14	9	16	6
September ..	78.0	—1.1	98	41	5.89	—1.42	11	12	12	6
October	70.2	—2.3	98	31	2.91	—1.11	5	19	7	5
November ..	65.7	+0.9	89	25	1.04	—1.30	4	14	11	5
December ..	61.1	+2.2	85	23	3.37	+0.71	8	12	10	9
Year......	71.2	+0.7	104	23	48.02	—6.20	102	164	132	69

Comparative Annual Data for Florida

YEAR.	Temperature. Mean.	Departure from the normal.	Highest.	Lowest.	Precipitation. Average.	Departure from the normal.
1892	70.4	—0.2	101	22	47.99	— 4.42
1893	71.0	+0.4	104	19	53.01	+ 0.60
1894	71.2	+0.6	101	12	52.51	+ 0.10
1895	69.9	—0.7	100	11	45.50	— 6.91
1896	71.0	+0.4	103	20	49.62	— 2.79
1897	71.2	+0.6	104	17	56.69	+ 4.28
1898	70.5	—0.1	102	17	48.36	— 4.05
1899	71.0	+0.4	104	— 2	53.93	+ 1.52
1900	70.7	+0.1	104	13	61.19	+ 8.78
1901	68.8	—1.8	107	12	58.47	+ 6.06
1902	70.8	+0.2	105	15	51.24	— 1.17
1903	69.8	—0.8	105	17	55.79	+ 3.38
1904	69.9	—0.7	102	20	48.15	— 4.26
1905	70.5	—0.1	103	10	61.43	+ 9.02
1906	70.9	+0.3	101	14	53.76	+ 1.35
1907	71.5	+0.9	102	21	49.15	— 3.26
1908	71.2	+0.6	103	20	48.54	— 3.87
1909	71.1	+0.5	103	16	49.52	— 2.89
1910	69.2	—1.4	102	19	50.88	— 1.53
1911	72.3	+1.7	104	15	47.40	— 5.01
1912	71.1	+0.6	104	21	64.88	+11.61
1913	71.2	+0.7	104	23	48.02	— 6.20

Killing Frosts, 1913

STATIONS	Last in Spring.	First in Autumn.
Northern Section		
Archer	Feb. 16	Nov. 10
Bristol	*	*
Carrabelle	Feb. 16	Nov. 11
Cedar Keys	None.	None.
Crescent City	*	Nov. 10
Federal Point	None.	None.
Fenholloway	Feb. 16	*
Fernandina	None.	Dec. 9
Gainesville	Feb. 16	Nov. 10
Hilliard	None.	Oct. 21
Jacksonville	None.	Dec. 9
Jasper	Feb. 16	Oct. 21
Johnstown	Feb. 16	Nov. 10
Lake City	Feb. 16	Nov. 10
Live Oak	*	Nov. 10
Macclenny	Feb. 16	†Nov. 10
Madison	None.	Nov. 11
Middleburg	†Feb. 16	Nov. 10
Monticello	*	*
Mount Pleasant	Mar. 28	Oct. 21
Newport	Feb. 16	Oct. 21
St. Augustine	None.	Nov. 10
Satsuma Heights	None.	Nov. 12
Switzerland	None.	Nov. 12
Tallahassee	None.	Nov. 10
Central Section		
Bartow	None.	Nov. 12
Bassenger	†None.	None.
Brooksville (1)	None.	Nov. 10
Brooksville (2)	None.	Nov. 10
Clermont	None.	None.
DeLand	None.	Nov. 10
Eustis	None.	None.
Fellsmere	*	*
Fort Meade	None.	None.
Fort Pierce	None.	None.
Grasmere	None.	Nov. 10
Inverness	None.	Nov. 10
Kissimmee	None.	None.
Lucerne Park	None.	None.
Malabar	None.	None.
Merritts Island	None.	None
New Smyrna	None.	Nov. 10
Ocala	†None.	*
Orange City	Jan. 30	Nov. 12

Killing Frosts, 1913—(Continued)

STATIONS	Last in Spring.	First in Autumn.
Central Section—Continued		
Orlando	None.	Nov. 10
Pinellas Park	None.	Nov. 12
Plant City	None.	None.
Rockwell	None.	†Nov. 10
St. Cloud	*	None.
St. Leo	None.	None.
Sanford	†None.	None.
Tampa	None.	None.
Tarpon Springs	None.	None.
Titusville	None.	Nov. 10
Southern Section		
Arcadia	None.	None.
Avon Park	None.	None.
Bradentown	None.	None.
Fort Lauderdale	None.	None.
Fort Myers	None.	None.
Griffin	†None.	None.
Homestead	None.	None.
Hypoluxo	None.	None.
Key West	None.	None.
Miami (1)	None.	None.
Miami (2)	None.	None.
Ritta	None.	None.
Sand Key	None.	None.
Zona	None.	None.
Western Section		
Apalachicola	†Feb. 16	Dec. 9
DeFuniak Springs	*	Nov. 10
Garniers (near)	Mar. 3	Oct. 21
Marianna	Mar. 28	Nov. 9
Molino	Mar. 7	Nov. 10
Panama City	*	†Nov. 11
Pensacola	Feb. 14	None.
Wausau	*	Oct. 20

*Record incomplete.
†Data incomplete, but this date probably correct.

ERRATA.

Climatological Reuort of District No. 2, for Florida, 1913, should be changed as follows: January—Malabar, lowest temperature, 39° on the 29th. March, Kissimmee, total precipitation, 7.64. May—Molino, mean temperature, 70.2°. June—Bristol, highest temperature, 98° on 16th. August—Key West, total precipitation, 5.18. September—Apalachicola, prevailing wind direction, NE.; Key West, mean temperature, 81.5°.

CLIMATOLOGICAL DATA FOR THE YEAR 1913

STATIONS.	COUNTIES.	Elevation, feet.	TEMPERATURE IN DEGREES FAHRENHEIT					
			Length of Record, Years.	Annual Mean.	Highest.	Date.	Lowest.	Date.
Northern Section								
Archer	Alachua	92	29	....	96	June 17*	30	Nov. 10*
Carrabelle	Franklin	10	15	68.0	101	July 18	26	Dec. 9
Cedar Keys	Levy	10	25	71.2	94	July 18	34	Dec. 9
Crescent City	Putnam	...	16	....	103	July 18	32	Nov. 10
Federal Point	Putnam	10	22	70.9	101	July 3	33	Nov. 12*
Fenholloway	Taylor	75	7	....	100	June 17	..	....
Fernandina	Nassau	10	21	....	...	....	32	Dec. 9
Gainesville	Alachua	176	18	70.0	98	June 17	30	Nov. 10*
Hilliard	Nassau	69	5	68.3	98	June 17	26	Nov. 12
Jacksonville	Duval	108	43	69.8	97	June 17	32	Dec. 9
Jasper	Hamilton	152	13	68.0	99	July 18	23	Dec. 10
Johnstown	Bradford	125	14	....	98	July 18	27	Nov. 12*
Lake City	Columbia	210	29	....	98	July 18	29	Nov. 10*
Live Oak	Suwannee	109	14	....	99	July 17*	..	....
Macclenny	Baker	125	18	....	98	July 3*	25	Dec. 9
Madison	Madison	200	14	68.6	100	July 18	29	Dec. 10
Middleburg	Clay	10	13	....	98	June 17*	27	Nov. 10*

Monticello	Jefferson	207	10	....	...	....	26	Dec. 10
Mount Pleasant	Gadsden	260	8	....	103	July 18	23	Dec. 9
Newport	Wakulla	...	12	....	98	....	25	Dec. 9*
St. Augustine	St. Johns.......	10	62	70.5	101	Aug. 14	32	Nov. 10*
Satsuma Heights...	Putnam	98	6	70.2	99	June 17	30	Dec. 9
Switzerland	St. Johns.......	10	21	69.8	96	May 31*	31	Nov. 12
Tallahassee	Leon	192	27	68.1	102	July 18	30	Dec. 9
Central Section								
Bartow	Polk	115	27	71.5	95	July 17	30	Nov. 12
Bassenger	Osceola	...	..	....	96	May 31	..	....
Brooksville (1).....	Hernando	126	21	72.3	97	June 17	33	Nov. 10
Brooksville (2).....	Hernando	...	3	70.5	97	May 30	25	Nov. 10
Clermont	Lake	105	21	73.8	101	June 17*	37	Nov. 10
DeLand	Volusia	27	17	....	98	July 18	26	Nov. 12
Eustis	Lake	56	23	72.7	99	June 16*	33	Nov. 12
Fellsmere	St. Lucie........	...	..	....	...	....	..	....
Fort Meade........	Polk	125	25	....	...	....	33	Nov. 12*
Fort Pierce	St. Lucie........	10	13	....	96	July 19*	40	Nov. 10
Grasmere	Orange	175	16	71.0	97	July 16*	30	Nov. 10
Inverness	Citrus	43	14	70.3	95	June 16*	30	Nov. 12
Kissimmee	Osceola	65	21	73.0	97	July 3*	37	Nov. 10
Lucerne Park......	Polk	...	2	73.0	96	July 17	39	Nov. 10*
Malabar	Brevard	24	20	73.5	98	July 7	34	Nov. 10
Merritts Island.....	Brevard	20	31	72.8	93	July 17*	41	Nov. 10*
New Smyrna.......	Volusia	9	29	70.6	97	July 16*	33	Nov. 10*
Ocala	Marion	98	21	....	...	....	..	....
Orange City........	Volusia	39	20	....	100	July 19	29	Nov. 12
Orlando	Orange	111	22	72.3	96	July 18	35	Nov. 10*
Pinellas Park......	Pinellas	20	2	72.4	94	June 19*	35	Nov. 12

CLIMATOLOGICAL DATA FOR THE YEAR 1913—(Continued)

STATIONS.	COUNTIES.	Elevation, feet.	TEMPERATURE IN DEGREES FAHRENHEIT					
			Length of Record Years.	Annual Mean.	Highest.	Date.	Lowest.	Date.
Central Section (Continued)								
Plant City	Hillsboro	121	21	72.6	98	June 17*	34	Nov. 12
Rockwell	Marion	10	12	70.9	98	June 17	30	Nov. 12
St. Cloud	Osceola	...	..	....	97	July 16	34	Nov. 10
St. Leo	Pasco	140	18	71.8	94	June 17	35	Dec. 9
Sanford	Seminole	25	6	....	97	July 18	35	Nov. 10
Tampa	Hillsboro	79	24	72.4	96	June 17	38	Dec. 9
Tarpon Springs	Pinellas	20	29	72.1	96	Aug. 17*	34	Nov. 12*
Titusville	Brevard	16	18	72.2	98	June 1	32	Nov. 10
Southern Section								
Arcadia	DeSoto	61	13	74.1	98	June 22	38	Feb. 17
Avon Park	DeSoto	150	15	73.1	95	June 1*	40	Jan. 29
Bradentown	Manatee	22	30	....	95	July 23	36	Feb. 17*
Fort Lauderdale	Dade	10	1	....	95	May 31	40	Feb. 17

Fort Myers	Lee	12	41	73.7	93	July 21	42	Dec. 12
Griffin	Dade	...	..	....	95	Aug. 14	..	....
Homestead	Dade	12	4	74.7	93	July 5*	40	Jan. 4*
Hypoluxo	Palm Beach	9	18	75.4	96	July 21*	41	Feb. 17
Key West	Monroe	14	43	77.3	90	July 17	55	Feb. 17
Lock No. 1	Dade	...	..	....	...	....	..	....
Miami (1)	Dade	47	12	75.2	91	July 18	47	Jan. 4
Miami (2)	Dade	10	3	....	91	May 10*	..	....
Ritta	Palm Beach	...	..	....	93	July 17*	..	....
Sand Key	Monroe	23	2	76.1	88	July 6	61	Jan. 4
Zona	Dade	...	..	....	95	July 18	..	....
Western Section								
Apalachicola	Franklin	24	10	....	103	July 18	32	Dec. 9
DeFuniak Springs	Walton	193	15	....	102	June 18	..	....
Garniers (near)	Walton	22	1	....	103	June 17	..	....
Marianna	Jackson	80	12	67.7	103	June 16*	25	Dec. 10
Molino	Escambia	49	12	....	102	July 18	30	Feb. 14
Panama City	Washington	...	..	....	...	....	30	Dec. 10
Pensacola	Escambia	149	34	67.4	97	July 18	31	Feb. 14
Wausau	Washington	250	15	....	104	July 18	..	....

*Also on other dates.

CLIMATOLOGICAL DATA FOR THE YEAR 1913

STATIONS.	COUNTIES.	PRECIPITATION, IN INCHES						Number of Rainy Days.	SKY.			Prevailing Wind Direction.
		Length of Record, Years.	Total for Year.	Greatest Monthly.	Month.	Least Monthly.	Month.		Number of Clear Days.	Number of Partly Cloudy Days.	Number of Cloudy Days.	
Northern Section												
Archer	Alachua	29	53.30	9.92	Aug.	0.16	Nov.	98	...	...	...	....
Carrabelle	Franklin	15	61.42	17.42	Sept.	0.21	Nov.	71	...	...	...	....
Cedar Keys	Levy	27	48.71	9.24	Aug.	0.15	April	85	...	...	...	w.
Crescent City	Putnam	16	.....	.....	....	....	....	..	...	...	...	....
Federal Point	Putnam	22	38.23	5.96	Aug.	0.60	Nov.	127	170	153	42	ne.
Fenholloway	Taylor	7	.....	.....	....	....	....	...	...	...	...	sw.
Fernandina	Nassau	21	.....	.....	....	....	....	...	...	...	...	ne.
Gainesville	Alachua	26	54.27	7.93	Aug.	0.29	Nov.	127	168	72	125	se.
Hilliard	Nassau	5	40.94	6.88	June	0.43	April	75	175	138	52	....
Jacksonville	Duval	43	38.70	6.28	July	0.32	Nov.	112	147	134	84	ne.
Jasper	Hamilton	13	53.23	8.72	Mar.	0.05	April	90	118	147	100	w.
Johnstown	Bradford	17	52.45	11.59	July	0.52	Nov.	100	149	162	54	....
Lake City	Columbia	29	47.91	8.88	July	T.	April	105	111	136	118	ne.
Live Oak	Suwannee	18	.....	.....	....	....	....	..	...	...	...	....
Macclenny	Baker	18	45.69	6.59	Mar.	0.61	Oct.	92	...	...	...	....
Madison	Madison	14	53.84	8.70	June	0.25	April	123	...	...	...	ne.

Middleburg	Clay	13	42.21	5.70	Mar.	0.62	Nov.	87	...	...	...	....
Monticello	Jefferson	10	.....	.....	....	....	....	..	...	...	...	....
Mount Pleasant	Gadsden	8	.....	.....	....	....	....	...	...	...	...	s.
Newport	Wakulla	12	.....	.....	....	....	....	..	...	...	...	....
St. Augustine	St. Johns	45	35.67	6.46	Feb.	0.50	Jan.	64	...	...	...	e.
Satsuma Heights	Putnam	6	38.80	7.59	Mar.	0.25	Nov.	100	171	142	52	ne.
Switzerland	St. Johns	22	40.44	6.53	Sept.	0.88	Jan.	80	...	...	...	....
Tallahassee	Leon	29	50.84	7.77	June	0.81	Nov.	101	201	74	90	w.
Central Section												
Bartow	Polk	27	52.48	8.12	Aug.	0.33	Nov.	119	125	100	140	ne.
Bassenger	Osceola	..	.....	.....	....	....	....	..	...	...	...	....
Brooksville (1)	Hernando	22	46.53	7.70	July	0.15	Nov.	82	...	...	...	ne.
Brooksville (2)	Hernando	3	67.30	11.24	July	0.78	Nov.	142	...	...	...	se.
Clermont	Lake	21	37.65	6.06	Mar.	0.20	Nov.	66	148	198	19	e.
DeLand	Volusia	10	.....	.....	....	0.61	Nov.	...	...	...	...	....
Eustis	Lake	23	39.34	6.28	Mar.	0.47	Nov.	96	245	68	52	e.
Fellsmere	St. Lucie	2	41.23	7.31	Aug.	0.69	Nov.	114	...	...	...	....
Fort Meade	Polk	31	52.47	8.26	July	0.85	Nov.	80	...	...	...	ne.
Fort Pierce	St. Lucie	19	36.33	6.22	Sept.	0.36	Nov.	85	...	...	...	e.
Grasmere	Orange	11	42.53	8.45	Mar.	0.17	Nov.	114	...	...	...	....
Inverness	Citrus	14	46.23	6.77	Aug.	0.15	Nov.	82	72	231	62	ne.
Kissimmee	Osceola	21	43.11	7.64	Mar.	0.30	Nov.	92	87	198	80	ne.
Lucerne Park	Polk	2	47.44	9.84	June	0.84	Nov.	107	54	286	25	ne.
Malabar	Brevard	21	34.20	5.84	Feb.	0.26	July	106	254	80	31	se.
Merritts Island	Brevard	35	47.52	9.74	Sept.	0.55	April	101	153	173	39	se.
New Smyrna	Volusia	30	30.87	6.95	Mar.	0.84	Jan.	90	111	213	41	e.
Ocala	Marion	21	.....	.....	....	....	....	..	...	...	...	....
Orange City	Volusia	23	.....	.....	....	....	....	..	...	...	...	sw.
Orlando	Orange	22	46.39	10.53	July	0.17	Nov.	104	103	145	117	se.
Pinellas Park	Pinellas	2	.....	.....	....	0.82	Nov.	..	194	119	52	w.

CLIMATOLOGICAL DATA FOR THE YEAR 1913—(Continued)

STATIONS.	COUNTIES.	PRECIPITATION, IN INCHES						Number of Rainy Days.	SKY.			Prevailing Wind Direction.
		Length of Record, Years.	Total for Year.	Greatest Monthly.	Month.	Least Monthly.	Month.		Number of Clear Days.	Number of Partly Cloudy Days.	Number of Cloudy Days.	
Central Section (Continued)												
Plant City	Hillsboro	21	45.71	10.67	Aug.	0.24	Nov.	83	...	...	...	s.
Rockwell	Marion	14	.....	.....	....	T.	Nov.	..	...	...	...	w.
St. Cloud	Osceola	..	.....	.....	....	....	....	..	...	...	...	e.
St. Leo	Pasco	18	50.59	11.92	Aug.	0.23	Nov.	112	...	...	...	e.
Sanford	Seminole	6	.....	.....	....	....	....	..	...	...	...	ne.
Tampa	Hillsboro	24	44.37	11.08	Aug.	0.27	Nov.	103	141	142	82	ne.
Tarpon Springs	Pinellas	22	52.88	10.76	Sept.	0.34	Nov.	104	...	...	...	e.
Titusville	Brevard	18	40.59	6.04	Feb.	0.80	Nov.	142	146	130	89	e.
Southern Section												
Arcadia	DeSoto	13	46.66	13.07	Aug.	0.86	Nov.	140	106	236	23	e.
Avon Park	DeSoto	15	52.68	8.72	June	0.48	Nov.	123	173	142	50	e.
Bradentown	Manatee	30	.....	.....	....	0.49	Nov.	..	...	...	...	sw.
Fort Lauderdale	Dade	1	43.24	9.34	May	1.04	Dec.	123	115	216	34	....

Fort Myers	Lee	46	56.30	14.36	Aug.	0.94	Mar.	111	264	83	18	e.
Griffin	Dade	..	.....	.....	....	....	....	..	...	...	...	e.
Homestead	Dade	4	58.98	9.28	Nov.	0.60	Dec.	108	103	208	54	e.
Hypoluxo	Palm Beach	18	43.70	7.39	Aug.	1.11	Dec.	126	204	114	47	e.
Key West	Monroe	43	29.96	6.22	Sept.	0.29	Dec.	112	159	141	65	se.
Lock No. 1	Dade	1	49.65	9.65	Sept.	0.92	Dec.	119	...	...	...	....
Miami (1)	Dade	12	51.27	8.42	May	0.32	Dec.	125	59	178	128	se.
Miami (2)	Dade	3	.....	.....	....	0.35	Dec.	..	...	...	...	se.
Ritta	Palm Beach	..	.....	.....	....	1.10	Jan.	..	...	...	...	....
Sand Key	Monroe	2	27.76	4.88	Oct.	0.25	Apr.	104	166	143	56	e.
Zona	Dade	..	.....	.....	....	....	....	..	...	...	...	....
Western Section												
Apalachicola	Franklin	10	67.55	22.87	Sept.	0.45	Nov.	90	181	129	55	se.
DeFuniak Springs	Walton	15	.....	.....	....	....	....	..	...	...	...	....
Garniers (near)	Walton	1	73.79	15.14	Sept.	1.37	Jan.	119	...	...	...	se.
Marianna	Jackson	12	51.09	11.07	Mar.	0.05	Nov.	90	...	...	...	n.
Molino	Escambia	12	72.66	14.23	Mar.	1.55	Oct.	56	205	45	115	n.
Panama City	Washington	..	.....	.....	....	....	....	..	...	...	...	....
Pensacola	Escambia	34	61.60	13.71	Sept.	0.99	Oct.	116	132	112	121	n.
Wausau	Washington	15	.....	.....	....	....	....	..	...	...	...	s.

T.—Amount too small to measure.

Manufactures

FOR THE

Year Ending Dec. 31, 1913

MANUFACTURES.

Year Beginning January 1, 1913, *and Ending December* 31, 1913.

This schedule of the statistical report is necessarily for the calendar year 1913, as it is not practicable to divide the business year into two divisions, as in the case of the Agricultural statistics. There are some omissions in this report, owing to the refusal of some persons to supply the information asked of them by the Enumerators. While there can be no valid reason for withholding such information from the Enumerators, because every intelligent person knows, and manufacturers are so informed by the Enumerators, that no private business will be exposed and that only aggregate quantities are wanted, yet, there are many persons whose secretiveness and selfishness far outweigh their patriotism and regard for the welfare of their community; and the community in such instances has to suffer therefor. It will be noted that one county is not reported. This we consider is a serious omission on the part of the county authorities, indicating a lack of appreciation of the importance of these matters. However, the splendid showing made in our manufacturing and industrial affairs is gratifying.

The information usually most sought in connection with manufacturing and industrial work is contained in the following tables, the heads of which clearly express the meaning of each.

No better advertisement of a State or County can be made than the publication of its industrial progress and development, and to those interested in such matters and who wish information as to the possibilities of investments in such lines of activity in this State, the statistics are well worth careful perusal.

We beg to direct attention to the classified tables by counties; the results there disclosed are of unusual interest and show plainly the results of the past two years. All of the counties are noticeable for their progress and development in industrial work.

Table No. 1—Shows the number of establishments reporting, capital invested, average number of wage earners and the total wages paid by the counties. In this table the aggregates are shown.

Table No. 2—Shows the average number of wage earners of specified ages, the amount of wages paid each and the greatest and smallest number of each class employed during the year, the output of ores of the various mines of Fullers earth and kaolin and cost of material and value of all of the products of industry of the several counties.

Table No. 3—Shows the products of ginneries of the State, pounds of cotton of both staples and bushels of seed of both staples. The number of gins is found in the classified list by counties.

Table No. 4—Shows the industries by counties, giving the numbers in each county, the aggregate amount of capital invested in each class, the average number of wage earners and their total wages; the average number of persons engaged in these industries of specified ages, and wages paid them; the largest and smallest number engaged in each industry; the cost of manufacture, and the value of the products of each of the industries by counties.

PHOSPHATES—MINING.

As the information on the production and disposition of Phosphates has been omitted from the report on manufactures, and more properly belongs to the work of the State Geological Survey, we publish the following report of the State Geologist on this subject.

PRODUCTION OF PHOSPHATE ROCK IN FLORIDA DURING 1913.

E. H. SELLARDS, STATE GEOLOGIST.

Statistics of Production Collected in Co-operation With the U. S. Geological Survey.

The production of land pebble phosphate in Florida, which has steadily increased during the past several years, showed a further gain during 1913, the output having for the first time exceeded two million tons. The production of hard rock phosphate, on the contrary, showed a slight decrease, having fallen slightly below one-half million tons. However, notwithstanding the decline in hard rock mining, the total production for the State during 1913 was greater than that for any preceding year, having exceeded two and one-half million tons, with a valuation in excess of nine and one-half million dollars.

The total shipments of phosphate rock during 1913, as reported by the producers, was 2,545,276 long tons, of which 2,055,482 tons were land pebble, including a small consignment of river pebble, and 489,794 tons were hard rock phosphate. The river pebble included with these shipments represents rock on hand from previous years, as no river pebble is being produced at present. The exports of phosphate rock from Florida to foreign countries during 1913, as shown by returns from the various shipping points, amounted to 1,364,296 tons, from which it appears that slightly less than one-half of the phosphate mined in Florida during 1913 was consigned for use within the United States. The rock consigned for domestic use is almost wholly land pebble phosphate, practically all of the hard rock being exported. The record of the export shipment is from the American Fertilizer of January 24, 1914.

Pebble phosphate from Florida sold at the mines during 1913 at $2.75 to $4.00 per ton, according to grade, while the hard rock phosphate sold at $4.00 to $5.00 per ton. The actual value of the phosphate shipped from Florida during 1913 approximates $9,563,084.

Thirty companies in all were engaged in mining phosphate in Florida during 1913. Of these sixteen companies were mining pebble phosphate, while fourteen were mining hard rock phosphate. The accompanying list is complete for all phosphate companies that operated in Florida during 1913:

PHOSPHATE COMPANIES OPERATING IN FLORIDA DURING 1913.

Amalgamated Phosphate Co.....25 S. Calvert St., Baltimore, Md., and Chicora, Fla.
Armour Fertilizer Works.......Bartow, Fla.
P. Bassett (Successor to Central Phosphate Co.)..........Newberry, Fla.
Peter B. and Robert S. Bradley.92 State St., Boston, Mass., and Floral City, Fla.
J. Buttgenbach & Co...........Holder, Fla.
Camp Phosphate Co............Ocala and Dunnellon, Fla.
Charleston, S. C., Mining and Manufacturing Co............Charleston, S. C., and Ft. Meade, Fla.
Compagnie Generale des Phosphates de la Floride..........Paris, France, and Pembroke, Fla.
Coronet Phosphate Co..........Lakeland, Fla., and 99 John St., New York.
Cummer Lumber Co............Jacksonville and Newberry, Fla.
The Dominion Phosphate Co....Bartow, Fla.
The Dunnellon Phosphate Co....Rockwell, Fla.
Dutton Phosphate Co...........Gainesville, Fla.
Florida Mining Co..............165 Broadway, New York, and Mulberry, Fla.
Florida Phosphate Mining Corporation ....Norfolk, Va., and Bartow, Fla.
Franklin Phosphate Co.........Newberry, Fla.
Holder Phosphate Co..........Ocala and Inverness, Fla.
International Phosphate Co.....27 State St., Boston, Mass., and Ft. Meade, Fla.
Interstate Chemical Corporation.Charleston, S. C., and Bowling Green, Fla.
Istachatta Phosphate Co........Istachatta, Fla.
Mutual Mining Co..............Savannah, Ga., and Newberry, Fla.
Palmetto Phosphate Co.........Baltimore, Md., and Tiger Bay, Fla.
The Phosphate Mining Co......55 Johns St., New York, and Nichols, Fla.

Pierce Phosphate Co	2 Rector St., New York, and Pierce, Fla.
Prairie Pebble Phosphate Co	165 Broadway, New York, and Mulberry, Fla.
Schilman & Bene	Ocala, Fla.
Societe Franco-Americaine des Phosphates de Medulla (Successor to Standard Phosphate Co.)	Christina, Fla.
The Southern Phosphate Development Co	Ocala and Inverness, Fla.
State Phosphate Co	Bartow, Fla.
T. A. Thompson	Neals, Fla.

In addition, The Export Phosphate Co., Mulberry, Fla., The Lakeland Phosphate Co., Lakeland, Fla., and The Acme Phosphate Co., Morriston, Fla., have organized and are expecting to mine during 1914.

SUMMARY OF PRODUCTION AND SHIPMENT OF PHOSPHATE IN FLORIDA FOR THE YEAR 1913:

	Long Tons.
Production	2,584,794
Total shipments	2,545,276
Exported	1,364,296
Consigned for use in the United States (about)	1,180,980

TABLE NO. 1.—Manufactures by Counties, Number of Establishments, Capital Invested, Average Number of Wage Earners and Total Wages Paid.

COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
Total State	5,795	$ 77,061,149	89,373	$ 49,148,452
Alachua	156	1,351,875	2,111	803,414
Baker	34	92,600	240	69,650
Bay	25	4,693,015	1,610	763,820
Bradford	141	864,486	1,237	345,121
Brevard	20	126,000	92	57,466
Calhoun	14	343,000	474	156,105
Citrus	17	965,800	312	144,225
Clay	22	1,647,925	490	225,667
Columbia	82	258,225	397	90,333
Dade	223	1,786,800	1,726	1,051,187
DeSoto	217	3,260,310	2,288	880,128
Duval	1,408	14,480,700	26,352	16,642,570
Escambia	26	248,692	385	147,436
Franklin	60	1,729,300	1,934	861,050
Gadsden	33	311,200	450	141,740
Hamilton	58	368,550	432	180,200
Hernando	13	538,250	676	370,500
Hillsboro	847	16,340,057	16,988	13,404,522
Holmes	34	448,375	614	523,525
Jackson	105	411,870	713	171,550
Jefferson	320	116,450	1,347	85,400
Lafayette	9	104,000	115	22,970
Lake	56	794,980	1,077	357,223
Lee	50	371,225	227	163,900
Leon	21	197,500	161	46,601
Levy	44	537,450	926	287,775
Liberty	25	341,000	586	188,955
Madison	70	1,630,100	1,352	529,658
Manatee	26	373,900	217	123,070
Marion	64	1,545,800	3,143	1,589,100
Monroe	68	2,963,212	2,262	1,619,334
Nassau	66	361,050	705	214,950
Orange	33	1,127,000	737	334,669
Osceola	20	182,000	177	82,090
Palm Beach	154	530,235	1,008	511,620
Pasco	44	478,800	924	348,595
Pinellas	26	700,500	342	198,350

TABLE NO. 1—Continued.—Manufactures by Counties, Number of Establishments, Capital Invested, Average Number of Wage Earners and Total Wages Paid.

COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
Polk	21	114,050	186	52,709
Putnam	223	2,035,400	2,291	1,105.975
Santa Rosa	187	4,604,025	2,754	1,100,036
Seminole	5	159,000	148	47,000
St. Johns	218	1,366,845	2,132	869.140
St. Lucie	9	268,300	41	24,000
Sumter	96	432,675	684	211,824
*Suwannee	......	....	......	....
Taylor	15	127,550	182	79,500
Volusia	190	2,470,240	2,724	936,357
Wakulla	22	231,675	432	53.625
Walton	135	1,592,932	1,81[illegible]	680,517
Washington	43	1,036,225	1,158	253,300

*Not reported.

TABLE NO. 2.—Average Number of Wage Earners of Specified Ages, Wages Paid and Greatest and Smallest Number Employed.

COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.	
	Average Number.	Wages.	Average Number.	Wages.
Total State	82,084	$ 45,985,736	6,063	$ 2,899,631
Alachua	2,107	803,314	4	100
Baker	240	69,650	....	....
Bay	1,590	756,610	10	4,310
Bradford	1,225	343,401	....	....
Brevard	92	57,466	....	....
Calhoun	430	151,705	44	4,400
Citrus	292	142,225	20	2,000
Clay	490	225,667	....	....
Columbia	380	89,898	6	190
Dade	1,629	998,107	80	51,500
DeSoto	2,288	880,128	....	....
Duval	25,212	16,100,725	1,040	521,845
Escambia	382	147,136	....	....
Franklin	1,834	841,050	75	15,000
Gadsden	450	141,740	....	....
Hamilton	400	168,800	5	3,200
Hernando	676	370,500	....	....
Hillsboro	13,569	11,548,186	3,398	1,852,544
Holmes	614	523,525	....	....
Jackson	713	171,650	....	....
Jefferson	1,347	85,400	....	....
Lafayette	115	22,970	....	....
Lake	1,053	353,843	19	2,877
Lee	207	157,900	20	6,000
Leon	161	46,601	....	....
Levy	857	266,435	25	5,500
Liberty	571	188,040	....	....
Madison	1,325	524,055	5	600
Manatee	215	122,570	2	500
Marion	1,735	1,206,800	734	224,300
Monroe	1,939	1,513,083	323	106,251
Nassau	705	214,950	....	....
Orange	737	334,669	....	....
Osceola	177	82,090	....	....
Palm Beach	998	507,220	10	4,400
Pasco	919	347,595	....	....
Pinellas	342	198,350	....	....

TABLE NO. 2—Continued.—Average Number of Wage Earners of Specified Ages, Wages Paid and Greatest and Smallest Number Employed.

COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.	
	Average Number.	Wages.	Average Number.	Wages.
Polk	186	52,709	....	....
Putnam	2,243	1,080,861	48	25,114
Santa Rosa	2,736	1,091,136	14	3,900
Seminole	148	47,000	....	....
St. Johns	2,009	821,390	123	47,750
St. Lucie	41	24,000	....	....
Sumter	684	211,824	....	....
*Suwannee	....	....	....	....
Taylor	182	79,500	....	....
Volusia	2,668	919,607	56	16,750
Wakulla	390	49,275	2	600
Walton	1,804	678,517	....	....
Washington	977	225,960	....	....

*Not reported.

TABLE NO. 2—Continued.—Average Number of Wage Earners of Specified Ages, Wages Paid and Greatest and Smallest Number Employed.

COUNTIES.	Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.		
Total State	$ 1,226	$ 263,085	113,015	66,066
Alachua	......	......	2,110	2,116
Baker	......	......	209	41
Bay	10	2,900	1,872	1,353
Bradford	12	1,720	1,697	963
Brevard	......	......	145	53
Calhoun	......	......	481	384
Citrus	......	......	513	229
Clay	......	......	564	429
Columbia	11	245	579	293
Dade	17	1,580	2,458	1,180
DeSoto	......	......	5,525	1,646
Duval	100	20,000	34,952	18,172
Escambia	3	300	437	179
Franklin	25	5,000	2,666	1,129
Gadsden	......	......	453	270
Hamilton	27	8,200	514	359
Hernando	......	......	1,038	602
Hillsboro	21	3,792	18,460	14,769
Holmes	......	......	711	316
Jackson	......	......	879	352
Jefferson	......	......	1,463	1,121
Lafayette	......	......	126	74
Lake	5	503	1,343	431
Lee	......	......	241	204
Leon	......	......	147	104
Levy	44	15,840	1,042	672
Liberty	15	915	786	489
Madison	22	5,000	1,568	1,063
Manatee	......	......	265	161
Marion	674	158,000	3,682	2,489
Monroe	......	......	2,884	1,428
Nassau	......	......	1,110	375
Orange	......	......	957	521
Osceola	......	......	233	95
Palm Beach	......	......	1,455	624
Pasco	5	1,000	1,245	758
Pinellas	......	......	449	196

TABLE NO. 2—Continued.—Average Number of Wage Earners of Specified Ages, Wages Paid and Greatest and Smallest Number Employed.

COUNTIES.	Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.		
Polk	......	....	229	169
Putnam	......	....	2,754	1,812
Santa Rosa	4	5,000	3,674	1,939
Seminole	......	....	163	132
St. Johns	......	....	2,107	1,466
St. Lucie	......	....	46	23
Sumter	......	....	735	533
*Suwannee	......	....	......	....
Taylor	......	....	218	128
Volusia	......	....	3,737	1,366
Wakulla	40	3,750	484	252
Walton	10	2,000	2,114	1,555
Washington	181	27,340	1,495	860

*Not reported.

TABLE NO. 2—Continued.—Mines and Mining, Cost of Material

COUNTIES.	Character of Ores Mined.			Cost of Production and Material used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)
	Tons Kaolin.	Tons Fullers' Earth.	Tons Phosphate.		
Total State	......	†	......	$ 76,277,604	$ 123,328,783
Alachua	......	......	......	......	......
Baker	......	......	......	84,259	111,250
Bay	......	......	......	1,126,323	1,271,384
Bradford	......	......	......	590,604	722,800
Brevard	......	......	......	121,900	279,300
Calhoun	......	......	......	205,000	267,900
Citrus	......	......	......	239,750	360,388
Clay	......	......	......	330,000	396,000
Columbia	......	......	......	95,380	378,406
Dade	......	......	......	1,288,984	1,814,348
DeSoto	......	......	......	1,100,160	1,538,212
Duval	......	......	......	28,968,787	35,941,758
Escambia	......	......	......	207,780	306,266
Franklin	......	......	......	1,163,100	1,514,700
Hernando	......	......	......	538,500	1,062,000
Gadsden	......	‡	......	249,715	322,181
Hamilton	......	......	......	278,375	362,800
Hernando	......	......	......	538,500	1,062,000
Hillsboro	......	......	......	16,755,652	43,841,292
Holmes	......	......	......	696,950	1,206,350
Jackson	......	......	......	284,465	479,405
Jefferson	......	......	......	70,138	119,356
Lafayette	......	......	......	65,273	111,350
Lake	......	......	......	739,045	965,460
Lee	......	......	......	315,350	479,600
Leon	......	......	......	61,400	90,200
Levy	......	......	......	244,590	367,780
Liberty	......	......	......	69,972	328,353
Madison	......	......	......	624,230	754,895
Manatee	......	......	......	187,150	250,600
Marion	......	......	......	2,622,500	3,122,000
Monroe	......	......	......	2,638,091	4,424,757
Nassau	......	......	......	371,550	590,100
Orange	......	......	......	616,313	813,560
Osceola	......	......	......	121,400	188,200

†Tons, 20,750; value, $91,000.
‡Tons, 20,750; value, $91,000.

TABLE NO. 2—Continued.—Mines and Mining, Cost of Material

COUNTIES.	Character of Ores Mined.			Cost of Production and Material used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)
	Tons Kaolin.	Tons Fullers' Earth.	Tons Phosphate.		
Palm Beach				921,100	1,312,000
Pasco				529,500	727,500
Pinellas				516,500	795,000
Polk				91,229	140,735
Putnam				2,848,405	4,562,608
Santa Rosa				3,074,424	3,676,844
Seminole				50,000	88,000
St. Johns				1,064,220	1,644.575
St. Lucie				44,000	66,000
Sumter				308,600	434,100
*Suwannee					
Taylor				112,500	165,500
Volusia				1,872,570	2,719,715
Wakulla				54,600	70,325
Walton				1,392,976	1,712,693
Washington				324,094	430,245

*Not reported.

TABLE No. 3—GINNERIES AND PRODUCTS, 1913-14

COUNTIES.	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
Total State	13,050,504	4,900,834	1,154,739	372,878
Alachua	21,000	549,895	1,312	41,738
Baker	16,000	356,000	800	88,000
Bay	....	....	....	....
Bradford	....	816,720	24,472	23,416
Brevard	....	....	....	....
Calhoun	....	....	....	....
Citrus	....	....	....	....
Clay	....	....	....	....
Columbia	253,265	384,136	15,117	22,976
Dade	....	....	....	....
DeSoto	....	....	....	....
Duval	....	....	....	....
Escambia	....	....	....	....
Franklin	....	....	....	....
Gadsden	360,000	5,100	23,291	468
Hamilton	....	620,000	....	44,500
Hernando	....	....	....	....
Hillsboro	....	....	....	....
Holmes	910 000	....	25,300	....
Jackson	7,065,000	....	830,115	....
Jefferson	2,172,340	72,000	94,255	5,520
Lafayette	....	174,375	....	11,280
Lake	....	....	....	....
Lee	....	....	....	....
Leon	....	....	....	....
Levy	....	....	....	....
Liberty	33,000	....	1,900	....
Madison	293,400	1,738,608	26,100	121,980
Manatee	....	....	....	....
Marion	16,000	185,000	345	13,000
Monroe	....	....	....	....
Nassau	....	....	....	....
Orange	....	....	....	....
Osceola	....	....	....	....
Palm Beach	....	....	....	....
Pasco	....	....	....	....
Pinellas	....	....	....	....
Polk	....	....	....	....
Putnam	....	....	....	....
Santa Rosa	323,000	....	18,170	....
Seminole	....	....	....	....

TABLE No. 3—(Continued)—Ginneries and Products, 1913-14

COUNTIES.	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
St. Johns	....	....	....	....
St. Lucie	....	....	....	....
*Suwannee	....	....	....	....
Taylor	....	....	....	....
Volusia	....	....	....	....
Wakulla	....	....	....	....
Walton	697,200	....	37,076	....
Washington	920,000	....	56,586	....

*Not reported.

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ALACHUA—				
Total County	156	$ 1,351,875	2,111	$ 803,414
Saw mills	17	$ 102,800	175	$ 46,311
Naval stores, turpentine and rosin	24	553,000	770	237,730
Ginneries and products	20	65,600	143	14,242
Grist mill products	17	8,900	34	2,922
Blacksmithing and repair shop	29	17,950	43	27,565
Mining (Phosphate)	5	255,000	740	346,500
Ice manufacturing	4	70,000	42	30,895
Irrigation works	18	156,800	....	....
Bottling works and soft drink manufacturing	6	19,400	27	10,755

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ALACHUA—Continued.				
Shingle manufacturing	1	1,000	11	3,960
Shoe shop and repair work	5	325	5	1,230
Tailoring and repair shops	4	300	4	1,826
Electric light plant	1	40,000	1	1,200
Brick manufacturing	1	20,000	20	8,400
Planing mill	1	25,000	40	13,000
Laundry	1	1,000	10	3,510
Wood yard	1	300	2	624
Foundry and machine shop	1	14,500	44	52.744

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ALACHUA—Continued.								
Total County	2,107	$803,314	4	$ 100	....	......	2,110	2,116
Saw mills	175	46,311	....	....	....	......	172	172
Naval stores, turpentine and rosin	770	237,730	....	....	....	......	762	770
Ginneries and products	139	14,142	4	100	....	......	143	143
Grist mill products	34	2,922	....	....	....	......	31	31
Blacksmithing and repair shop	43	27,565	....	....	....	......	57	57
Mining (Phosphate)	740	346,500	....	....	....	......	740	740
Ice manufacturing	42	30,895	....	....	....	......	44	40
Irrigation works	.....	....	....	....	....	......	.....	.....
Bottling works and soft drink manufacturing.	27	10,755	....	....	....	......	26	26

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ALACHUA—Continued.								
Shingle manufacturing	11	3,960	....	....	....	......	11	11
Shoe shop and repair work	5	1,230	....	....	....	......	5	5
Tailoring and repair shops	4	1,826	....	....	....	......	4	4
Electric light plant	1	1,200	....	....	....	......	1	1
Brick manufacturing	20	8,400	....	....	....	......	20	20
Planing mill	40	13,000	....	....	....	......	40	40
Laundry	10	3,510	....	....	....	......	10	10
Wood yard	2	624	....	....	....	......	2	2
Foundry and machine shop	44	52,744	....	....	....	......	44	44

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ALACHUA—Continued.							
Total County		$	$	21,000	549,895	1,312	41,738
Saw mills							
Naval stores, turpentine and rosin							
Ginneries and products				21,000	549,895	1,312	41,738
Grist mill products							
Blacksmithing and repair shop							
Mining (Phosphate)							
Ice manufacturing							
Irrigation works							
Bottling works and soft drink manufacturing							

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ALACHUA—Continued.							
Shingle manufacturing	....	....	....	....	....	......	....
Shoe shop and repair work	....	....	....	....	....	......	....
Tailoring and repair shops	....	....	....	....	....	......	....
Electric light plant	....	....	....	....	....	......	....
Brick manufacturing	....	....	....	....	....	......	....
Planing mill	....	....	....	....	....	......	....
Laundry	....	....	....	....	....	......	....
Wood yard	....	....	....	....	....	......	....
Foundry and machine shop	....	....	....	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BAKER—				
Total County	34	92,600	240	69,650
Saw mill products	6	$ 10,500	37	$ 11,600
Turpentine and rosin, naval stores	6	59,900	161	53,790
Ginneries and products	5	9,500	23	2,520
Grist mill products	7	5,200	8	300
Blacksmithing and repair works	9	6,500	9	1,440
Shingle mill	1	1,000	2	600

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BAKER—Continued.								
Total County	240	$ 69,650	....	....	....	......	209	141
Saw mill products	37	11,600	....	....	....	......	3	3
Turpentine and rosin, naval stores	161	53,790	....	....	....	......	201	133
Ginneries and products	23	2.520	....	....	....	......	5	5
Grist mill products	8	300	....	....	....	......	.....	.....
Blacksmithing and repair works	9	1,440	....	....	....	......	.....	.....
Shingle mill	2	600	....	....	....	......	.....	.....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
BAKER—Continued.							
Total County	....	$ 84,259	$ 111,250	16,000	356,000	800	88,000
Saw mill products	....	23,209	31,500	....	....	......	....
Turpentine and rosin, naval stores	....	61,050	79,750	....	....	......	....
Ginneries and products	....	....	....	....	....	......	....
Grist mill products	....	....	....	....	....	......	....
Blacksmithing and repair works.	....	....	....	....	....	......	....
Shingle mill	....	....	....	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BAY—				
Total County	25	$ 4,693,015	1,610	$ 763,820
Saw mill products	4	$ 3,164,000	953	$ 475,800
Turpentine and rosin, naval stores	7	1,387,000	595	254,000
Blacksmithing and repair work	2	400	3	1,560
Novelty works	2	3,000	3	2,580
Ice manufacturing	1	40,000	6	2,500
Soft drinks factory	1	30,000	11	7,800
Laundry	1	8,000	10	5,200
Ice and electric light plant	1	50,000	10	3,500

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BAY—Continued.				
Marine railroad	1	$ 5,000	4	$ 3,500
Paint manufacturing	1	1,000	2	1,560
Bread manufacturing	2	3,500	7	2,880
Tailoring	1	500	5	2,400
Tin shop	1	615	1	600

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BAY—Continued.								
Total County	1,590	$756,610	10	$ 4,370	10	$2,900	1,872	1,353
Saw mill products	943	472,900	....	....	10	2,900	1,065	880
Turpentine and rosin, naval stores	595	254,000	....	....	....	......	715	430
Blacksmithing and repair works	3	1,560	....	....	....	......	5	2
Novelty works	3	2,580	....	....	....	......	7	3
Ice manufacturing	6	2,500	....	....	....	......	8	4
Soft drinks factory	11	7,800	....	....	....	......	14	9
Laundry	3	2,000	7	3,200	....	......	14	7
Ice and electric light plant	10	3,500	....	....	....	......	16	4
Marine railroad	4	3,500	....	....	....	......	6	2

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BAY—Continued.								
Paint manufacture	2	$ 1,560	....	$........	....	$.....	5	1
Bread manufacturing	4	1,710	3	1,170	....	......	8	6
Tailoring	5	2,400	....	....	....	......	6	4
Tin shop	1	600	....	....	....	......	3	1

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
BAY—Continued.							
Total County	....	$ 1,126,323	$ 1,271,384	....	....	......	....
Saw mill products	....	695,157	782,736	....	....	......	....
Turpentine and rosin, naval stores	....	395,000	434,000	....	....	......	....
Blacksmithing and repair works.	....	1,200	3,000	....	....	......	....
Novelty works	....	3,600	5,700	....	....	......	....
Ice manufacturing	....	....	....	....	....	......	....
Soft drinks factory	....	....	....	....	....	......	....
Laundry	....	6,500	7,500	....	....	......	....
Ice and electric light plant	....	11,698	14,898	....	....	......	....
Marine Railroad	....	1,800	4,000	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
BAY—Continued.							
Paint manufacture	....	$ 1,000	$ 5,000	....	....	......	....
Bread manufacturing	....	6,318	8,600	....	....	......	....
Tailoring	....	3,750	4,750	....	....	......	....
Tin shop	....	300	1,200	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BRADFORD—				
Total County	141	$ 864,486	1,237	$ 345,121
Saw mill products	14	31,900	110	23,150
Turpentine and rosin, naval stores	20	555,000	530	145,500
Ginneries and products	10	28,500	59	5,509
Grist mill and products	8	3,300	15	1,975
Blacksmithing and repair shop	15	19,510	28	14,700
Shingle manufacturing	3	3,000	35	5,800
Veneering and planing mill	2	10,000	18	8,355
Cross tie manufacturing	14	87,000	258	78,170
Watch repair shop	3	1,600	3	2,800

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BRADFORD—				
Printing shop	3	$ 7,106	6	$ 5,282
Logging business	5	27,200	74	19,440
Bottling works	3	8,000	8	3,640
Ice manufacturing	2	22,000	6	2,100
Electric light and water plant	3	43,000	6	3,155
Garage and repair shop	4	2,375	4	2,325
Contracting, building and painting	12	685	17	5,810
Canning manufacturing	5	2,085	4	25
Irrigation plant	1	125	....	....
Newspaper	1	2,400	2	1,500

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BRADFORD—Continued.				
Shoe, harness and repair shop	2	1,050	2	1,500
Cementing	1	1,000	4	1,050
Bicycle and repair shop	1	1,000	1	1,200
Miscellaneous	9	6,650	47	12,135

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BRADFORD—Continued.								
Total County	1,225	$343,401	....	$.......	12	$1,720	1,697	963
Saw mill products	110	23,150	....	....	....	......	142	82
Turpentine and rosin, naval stores	520	143,880	....	....	10	1,620	714	407
Ginneries and products	59	5,509	....	....	....	......	65	46
Grist mill and products	14	1,925	....	....	1	50	15	15
Blacksmithing and repair shop	28	14,700	....	....	....	......	33	25
Shingle manufacturing	35	5,800	....	....	....	......	45	27
Veneering and planing mill	18	8,355	....	....	....	......	22	14
Cross tie manufacture	258	78,170	....	....	....	......	453	188
Watch repair shop	3	2,800	....	....	....	......	3	3

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BRADFORD—Continued.								
Printing shop	6	5,282	....	....	....	......	8	4
Logging business	74	19,440	....	....	....	......	82	64
Bottling works	7	3,590	....	....	1	50	12	16
Ice manufacturing	6	2,100	....	....	....	......	8	4
Electric light and water plant	6	3,155	....	....	....	......	6	6
Garage and repair shop	4	2,325	....	....	....	......	4	4
Contracting, building and painting	17	5,810	....	....	....	......	17	17
Canning manufacturing	4	25	....	....	....	......	4	4
Irrigation plant	....	....	....	....	....	......	......	.....
Newspaper	2	1,500	....	....	....	......	2	2

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BRADFORD—Continued.								
Shoe, harness and repair shop	2	1,500	....	....	....	......	2	2
Cementing	4	1,050	....	....	....	......	4	4
Bicycle and repair shop	1	1,200	....	....	....	......	1	1
Miscellaneous	47	12,135	....	....	....	......	55	28

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
BRADFORD—Continued.							
Total County	....	$ 590,604	$ 722,800	....	816,750	24,472	23,416
Saw mill products	....	45,790	53,750	....	....	......	....
Turpentine and rosin, naval stores	....	271,195	329,303	....	....	......	....
Ginneries and products.........	....	9,306	10,546	....	816,750	24,472	23,416
Grist mill products	....	2,465	3,425	....	....	......	....
Blacksmithing and repair shop..	....	27,420	35,100	....	....	......	....
Shingle manufacturing	....	9,250	11,060	....	....	......	....
Veneering and planing mill......	....	7,675	10,800	....	....	......	....
Cross tie manufacturing	....	106,400	127,500	....	....	......	....
Watch repair shop	....	4,710	6,750	....	....	......	....
Printing shop	....	6,360	9,900	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
BRADFORD—Continued.							
Logging business	....	26,600	33,682	....	....	......	....
Bottling works	....	7,380	11,200	....	....	......	....
Ice manufacturing	....	2,800	4,000	....	....	......	....
Electric light and water plant	....	7,046	9,579	....	....	......	....
Garage and repair shop	....	4,500	5,500	....	....	......	....
Contracting, building and painting	....	16,100	18,450	....	....	......	....
Canning manufacturing	....	57	115	....	....	......	....
Irrigation plant	....	....	....	....	....	......	....
Newspaper	....	2,600	3,400	....	....	......	....
Shoe, harness and repair shop	....	2,850	3,400	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
BRADFORD—Continued.							
Cementing	....	8,000	9,000	....	....	......	....
Bicycle and repair shop	....	1,400	1,600	....	....	......	....
Miscellaneous	....	20,700	24,200	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
BREVARD—				
Total County	20	$ 126,000	92	$ 57,466
Saw mill products	3	7,500	30	18,780
Boat building and repair shop	3	6,000	12	6,100
Machine shop	3	8,000	7	4,000
Well driving	3	6,500	12	8,196
Sash, doors and blinds	1	12,000	12	9,390
Brick and cement	1	3,000	4	2,500
Electric light plant	1	35,000	3	2,000
Cooperage	1	1,000	1	900
Ice plant	2	45,000	9	4,600
Blacksmithing and repair shop	2	2,000	4	1,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
BREVARD—Continued.								
Total County	92	$ 57,466	....	$.......	....	......	145	53
Saw mill products	30	18,780	....	....	....	......	36	18
Boat building and repair shop	12	6,100	....	....	....	......	22	3
Machine shop	7	4,000	....	....	....	......	14	3
Well driving	12	8,196	....	....	....	......	16	12
Sash, doors and blinds	12	9,390	....	....	....	......	20	8
Brick and cement	4	2,500	....	....	....	......	8	2
Electric light plant	3	2,000	....	....	....	......	5	1
Cooperage	1	900	....	....	....	......	3	1
Ice plant	9	4,600	....	....	....	......	15	3
Blacksmithing and repair shop	4	1,000	....	....	....	......	6	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
BREVARD—Continued.							
Total County	....	$ 121,900	$ 279,300	....	....	....	....
Saw mill products	....	24,000	67,000	....	....	....	....
Boat building and repair shop	....	16,000	34,000	....	....	....	....
Machine shop	....	10,000	21,000	....	....	....	....
Well driving	....	5,900	13,000	....	....	....	....
Sash, doors and blinds	....	41,000	97,800	....	....	....	....
Brick and cement	....	4,000	9,000	....	....	....	....
Electric light plant	....	3,000	10,000	....	....	....	....
Cooperage	....	1,000	3,000	....	....	....	....
Ice plant	....	9,000	18,000	....	....	....	....
Blacksmithing and repair shop	....	3,000	6,500	....	....	....	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
CALHOUN—				
Total County	14	$ 343,000	474	$ 156,105
Saw mill products	4	117,500	172	66,600
Turpentine and rosin, naval stores	5	210,000	285	85,400
Grist mill products	1	3,000	1	200
Ginneries and products	1	4,000	3	555
Brick manufacturing	1	6,000	10	2,000
Bottling works	1	1,000	2	550
Electric light plant	1	1,500	1	800

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
CALHOUN—Continued.								
Total County	430	$151,705	44	$ 4,400	....	......	481	384
Saw mill products	172	66,600	....	....	....	......	179	145
Turpentine and rosin, naval stores	241	81,000	44	4,400	....	......	285	225
Grist mill products	1	200	....	....	....	......	1	1
Ginneries and products	3	555	....	....	....	......	3	2
Brick manufacturing	10	2,000	....	....	....	......	10	8
Bottling works	2	550	....	....	....	......	2	2
Electric light plant	1	800	....	....	....	......	1	1

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
CALHOUN—Continued.							
Total County	....	$ 205,000	$ 267,900	....	....	....	....
Saw mill products	....	....	....	....	....	....	....
Turpentine and rosin, naval stores	....	....	....	....	....	....	....
Grist mill products	....	....	....	....	....	....	....
Ginneries and products	....	....	....	....	....	....	....
Brick manufacturing	....	....	....	....	....	....	....
Bottling works	....	....	....	....	....	....	....
Electric light plant	....	....	....	....	....	....	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
CITRUS—				
Total County	17	$ 965,800	312	$ 144.225
Saw mill products	4	$ 414,000	204	$ 88,055
Naval stores, turpentine and rosin	1	12,000	27	7,200
Ice factories	2	20,000	10	6,790
Garage and automobile repair work	3	4,500	6	1,180
Rock quarrying (Lime)	1	5,000	40	25,000
Electric power company	1	500,000	15	12,000
Bottling works	1	1,200	2	540
Blacksmithing and wheelwright	2	5,100	5	1,660
Contracting and general repairing	2	4.000	3	1.800

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
CITRUS—Continued.								
Total County	292	$142,225	20	$ 2,000	....	......	513	229
Saw mill products	184	86,055	20	2,000	....	......	256	152
Naval stores, turpentine and rosin	27	7,200	....	....	....	......	45	27
Ice factories	10	6,790	....	....	....	......	26	6
Garage and automobile repair work	6	1,180	....	....	....	......	17	8
Rock quarrying (Lime)	40	25,000	....	....	....	......	50	15
Electric power company	15	12,000	....	....	....	......	100	12
Bottling works	2	540	....	....	....	......	4	1
Blacksmithing and wheelwright	5	1,660	....	....	....	......	10	5
Contracting and general repairing	3	1,800	....	....	....	......	5	3

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Value of Products. Cost of Material and		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
CITRUS—Continued.							
Total County	....	$ 239,750	$ 360,388	....	....	......	....
Saw mills and products	....	143,850	187,687	....	....	......	....
Naval stores, turpentine and rosin	....	20,000	41,000	....	....	......	....
Ice factories	....	3,500	8,951	....	....	......	....
Garage and automobile repair work	....	12,000	16,500	....	....	......	....
Rock quarrying (Lime)	....	5,000	11,500	....	....	......	....
Electric power company	....	50,000	84,000	....	....	......	....
Bottling works	....	600	1,650	....	....	......	....
Blacksmithing and wheelwright	....	2,800	4,600	....	....	......	....
Contracting and general repairing	....	2,000	4,500	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
CLAY—				
Total County	22	$ 1,647,925	490	$ 225,067
Saw mill products	3	1,504,600	338	179,200
Turpentine and rosin, naval stores	2	125,000	95	31,400
Brick work	1	2,400	18	2,500
Ice manufacturing	1	1,300	4	2,356
Blacksmithing and repair shop	8	875	8	4,275
Grist mill and products	5	1,250	9	1,536
Bottling works	1	2,500	2	300
Crate manufacturing	1	10,000	16	3,500

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number	Wages.	Average Number.	Wages.	Average Number.	Wages.		
CLAY—Continued.								
Total County	490	$225,667	....	....	....	......	564	429
Saw mill products	338	179,200	....	....	....	......	365	309
Turpentine and rosin, naval stores	95	31,400	....	....	....	......	125	85
Brick work	18	2,500	....	....	....	......	20	15
Ice manufacturing	4	2,356	....	....	....	......	6	3
Blacksmithing and repair shop	8	4,275	....	....	....	......	16	7
Grist mill and products	9	1,536	....	....	....	......	10	6
Bottling works	2	300	....	....	....	......	2	2
Crate manufacturing	16	3,500	....	....	....	......	20	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
CLAY—Continued.							
Total County	....	$ 330,000	$ 396,000	....	....	......	....
Saw mill products	....	320,000	350,000	....	....	......	....
Turpentine and rosin, naval stores	....	10,000	46,000	....	....	......	....
Brick work	....	....	....	....	....	......	....
Ice manufacturing	....	....	....	....	....	......	....
Blacksmithing and repair shop	....	....	....	....	....	......	....
Grist mill and products	....	....	....	....	....	......	....
Bottling works	....	....	....	....	....	......	....
Crate manufacturing	....	....	....	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
COLUMBIA.				
Total County	82	$ 258,225	397	$ 90,333
Saw mill products	12	59,250	94	23,562
Turpentine and resin naval stores	8	69,000	110	22,500
Ginneries and products	11	26,950	54	3,656
Grist mill and products	13	3,100	16	1,025
Blacksmithing and repair shop	8	1,200	13	3,490
Planing mill and manufacturing work	2	40,500	43	15,200
Ice manufacturing	2	40,000	10	4,000
Tailoring and repair shop	1	300	1	400
Millinery and women repair shop	2	2,500	7	1,300

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
COLUMBIA—Continued.				
Machinery and repair works	1	4,000	7	3,000
Jewelry and repair shop	2	300	3	1,500
Auto repair shop	2	4,000	6	2,500
Harness manufacturing and shoe shop	5	365	5	1,300
Contracting and repair work	10	460	17	3,950
Laundry	1	1,000	6	1,200
Cigar manufacturing	1	300	2	250
Printing shop	1	5,000	3	1,500

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
COLUMBIA—Continued.								
Total County	380	$ 89,898	6	$ 190	11	$ 245	579	293
Saw mill products	94	23,562	....	....	....	......	106	67
Turpentine and resin naval stores	110	22,500	....	....	....	......	205	72
Ginneries and products	43	3,371	3	90	8	195	72	48
Grist mill and products	13	975	....	....	3	50	26	15
Blacksmithing and repair shop	13	3,490	....	....	....	......	21	9
Planing mill and manufacturing work	43	15,200	....	....	....	......	48	37
Ice manufacturing	10	4,000	....	....	....	......	13	8
Tailoring and repair shop	1	400	....	....	....	......	1	1

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
COLUMBIA—Continued.								
Millinery and women repair shop	7	1,300	.....	....	....	......	11	4
Machinery and repair works	7	3,000	.....	....	....	......	10	5
Jewelry and repair shop	3	1.500	.....	....	....	......	4	2
Auto repair shop	6	2,500	.....	....	....	......	8	3
Harness manufacturing and shoe shop	5	1,300	.....	....	....	......	9	5
Contracting and repair work	17	3,950	.....	....	....	......	31	10
Laundry	3	1,100	3	100	....	......	7	3
Cigar manufacturing	2	250	.....	....	....	......	2	2
Printing shop	3	1,500	.....	....	....	......	5	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
COLUMBIA—Continued.							
Total County	....	$ 95,380	$ 378,406	253,264	384,136	15,117	22,976
Saw mill products	....	30,697	210,861	....	....	......	....
Turpentine and resin naval stores	....	31,718	48,680	....	....	......	....
Ginneries and products.........	....	5,500	7,015	253,264	384,136	15,117	22,976
Grist mill and products.........	....	260	2,700	....	....	......	....
Blacksmithing and repair shop...	....	1,000	6,250	....	....	......	....
Planing mill and mfg. work......	....	20,020	50.500	....	....	......	....
Ice manufacturing	....	2,000	8,500	....	....	......	....
Tailoring and repair shop.......	....	50	200	....	....	......	....
Millinery and women's repair shop	....	170	3.100	....	....	......	....
Machinery and repair works......	....	300	10,000	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
COLUMBIA—Continued.							
Jewelry and repair shop		150	3,000				
Auto repair shop		700	5,000				
Harness mfg. and shoe shop		315	3,400				
Contracting and repair work		300	10,200				
Laundry		200	2,000				
Cigar manufacturing			1.000				
Printing shop		2,000	6.000				

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DADE.				
Total County	223	$ 1,786,800	1,726	$ 1,031,187
Miscellaneous	6	26,500	35	20,100
Saw mill products	22	236,400	203	115.700
Artificial stone and cement manufacturing	6	64,000	107	64,580
Contracting and building	29	79,000	203	168,140
Boat building and repairing	7	36,000	28	21,150
Electric power and repair plant	2	6,000	9	7,050
Electric light, gas mfg. and water plant	3	350,000	37	28.700
Automobile and bicycle repair shop	11	16.000	30	22.590
Confectionery, baking and jelly manufacturing	14	137,800	74	46,250

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DADE—Continued.				
Women's tailoring and repair shop	1	2,000	1	1,200
Laundry and repair shop	14	44,500	73	37,505
Packing houses	38	270,300	449	244,020
Pumping plant	1	60,000	5	4,000
Tinners, plumbing and repairing	7	83,500	37	29,542
Ice manufacturing	5	151,500	87	47,720
Planing mill and novelty works	4	8,000	16	12,350
Millinery	3	3,500	4	1.500
Publishing and printing works	11	88,000	85	74.200

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DADE—Continued.				
Cigar manufacturing	4	6,500	13	7,100
Hat repair shop	2	1,000	3	1,500
Blacksmithing and repair works	5	23,500	16	13,750
Bottling works	6	20,500	22	16,340
Foundry and machine repair works	4	24,000	17	13,400
Harness and shoe repair shop	3	4,800	7	4,300
Fish business and packing	14	18,500	65	43,500
Stone crusher	1	25,000	100	5,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DADE—Continued.								
Total County	1,629	$998,107	80	$ 51,500	17	$1,580	2,458	1,180
Miscellaneous	33	18,900	2	1,200	....	......	58	26
Saw mill products	203	115,700	.....	....	....	......	246	167
Artificial stone and cement manufactures	107	64,580	.....	....	....	......	142	64
Contracting and building	203	168,140	.....	....	....	......	221	173
Boat building and repairing	28	21,150	.....	....	....	......	32	23
Electric power and repair plant	9	7,050	.....	....	....	......	9	9
Electric light, gas mfg. and water plant	37	28,700	.....	....	....	......	41	27
Automobile and bicycle repair shop	30	22,590	.....	....	....	......	37	28
Confectionery, baking and jelly manf'g	62	40,550	12	5,700	....	......	88	62

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DADE—Continued.								
Women's tailoring and repair shop	....	....	1	1,200	....	......	3	1
Laundry and repair shop	44	25,505	29	12,000	....	......	101	62
Packing houses	428	221,820	21	22,200	....	......	912	116
Pumping plant	5	4,000	....	....	....	......	30	4
Tinners, plumbing and repairing	37	29,542	....	....	....	......	45	33
Ice manufacturing	85	46,220	2	1,500	....	......	94	83
Planing mill and novelty works	16	12,350	....	....	....	......	21	11
Millinery	1	500	3	1,000	....	......	4	4
Publishing and printing works	58	65.920	10	6.700	17	1,580	93	66

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DADE—Continued.								
Cigar manufacturing	13	7,100	....	....	...	.....	16	10
Hat repair shop	3	1,500	....	....	...	.....	6	2
Blacksmithing and repair works	16	13,750	....	....	...	.....	22	13
Bottling works	22	16,340	....	....	...	.....	28	19
Foundry and machine repair works	17	13,400	....	....	...	.....	19	14
Harness and shoe repair shop	7	4,300	....	....	...	.....	9	7
Fish business and pasking	65	43,500	....	....	...	.....	81	56
Stone crusher	100	5,000	....	....	...	.....	100	100

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DADE—Continued.							
Total County	....	....	....	....	....	......	......
Miscellaneous	....	....	....	....	....	......	......
Saw mill products	....	....	....	....	....	......	......
Artificial stone and cement mfg.	....	....	....	....	....	......	......
Contracting and building	....	....	....	....	....	......	......
Boat building and repairing	....	....	....	....	....	......	......
Electric power and repair plant	....	....	....	....	....	......	......
Elec. L., Gas mfg. and Water	....	....	....	....	....	......	......
Automobile and bic. repair shop	....	....	....	....	....	......	......
Confectionery, baking & jelly mfg.	....	....	....	....	....	......	......
Women's tailoring and rep. shop.	....	....	....	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DADE—Continued.							
Laundry and repair shop........	....	....	....	....	....	......	....
Packing houses	....	....	....	....	....	......	....
Pumping plant	....	....	....	....	....	......	....
Tinners, plumbing and repairing.	....	....	....	....	....	......	....
Ice manufacturing	....	....	....	....	....	......	....
Planing mill and novelty works..	....	....	....	....	....	......	....
Millinery	....	....	....	....	....	......	....
Publishing and printing works...	....	....	....	....	....	......	....
Cigar manufacturing	....	....	....	....	....	......	....
Hat repair shop...............	....	....	....	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DADE—Continued.							
Blacksmithing and repair works.	....	....	....	....	....	......	....
Bottling works	....	....	....	....	....	......	....
Foundry and mach. repair works.	....	....	....	....	....	......	....
Harness and shoe repair shop	....	....	....	....	....	......	....
Fish business and packing	....	....	....	....	....	......	....
Stone crusher	....	....	....	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DE SOTO.				
Total County	217	$ 3,260,310	2,288	$ 880.128
Saw mills and products	24	286,300	427	147,300
Naval stors, turpentine and resin	8	360,000	290	117,250
Blacksmithing and repair shop	10	5,800	20	14,480
Shoemaking and repair shop	5	2,050	8	3,360
Planing mill and novelty works	4	14,700	23	10,660
Irrigating	95	68,560	179	67,120
Ice plant	2	70,000	18	9,080
Electric light and water plant	8	178.500	79	33.210
Cigar manufacturing	5	3,400	12	3,200

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DE SOTO—Continued.				
Concrete and stone manufactures	5	3,300	16	6,910
Crate mill	2	1,002,500	250	54,300
Laundry	3	5,100	14	3,160
Tailoring	4	1,800	8	2,200
Millinery	7	4,000	14	4,900
Plumbing and repair works	3	4,200	10	3,900
Printing and publishing	4	29,000	21	11,810
Wagon shop and repairs	3	8,100	11	3,650
Grist mill and products	1	500	2	400

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DE SOTO—Continued.				
Watch and jewelry repair shop	2	2,000	2	2,000
Auto and bicycle repair shop	7	10,000	21	6,918
Machine shop	3	1,010,000	404	201,960
Creosote plant	1	50,000	40	18,000
Canning factory	1	900	17	7,800
Contractor and builder	2	11,000	60	21,400
Fish house and packers	6	126.800	337	123,360
Boat repair shops	2	1.800	5	1,800

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DE SOTO—Continued.								
Total County	2,288	880,128	....	....	....	......	2,525	1,646
Saw mills and products	2,288	$880,128	....	....	....	......	2,525	1,646
Naval stores, turpentine and resin	290	117,250	....	....	....	......	320	170
Blacksmithing and repair shop	20	14,480	....	....	....	......	25	11
Shoemaking and repair shop	8	3,360	....	....	....	......	8	5
Planing mill and novelty works	23	10,660	....	....	....	......	29	12
Irrigating	179	67,120	....	....	....	......	191	98
Ice plant	18	9,080	....	....	....	......	20	10
Electric light and water plant	79	33,210	....	....	....	......	98	48
Cigar manufacturing	12	3,200	....	....	....	......	12	8

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DE SOTO—Continued.								
Concrete and stone manufacturing	16	6,910	....	....	....	......	18	10
Crate mill	250	54,300	....	....	....	......	250	215
Laundry	14	3,160	....	....	....	......	17	9
Tailoring	8	2,200	....	....	....	......	10	5
Millinery	14	4,900	....	....	....	......	14	7
Plumbing and repair works	10	3,900	....	....	....	......	11	6
Printing and publishing	21	11,810	....	....	....	......	28	12
Wagon shop and repairs	11	3,650	....	....	....	......	14	6
Grist mill and products	2	400	....	....	....	......	2	2

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DE SOTO—Continued.								
Watch and jewelry repair shop	2	2,000	....	....	....	......	2	2
Auto and bicycle repair shop	21	6,918	....	....	....	......	23	10
Machine shop	404	201,960	....	....	....	......	460	402
Creosote plant	40	18,000	....	....	....	......	40	20
Canning Factory	17	7,800	....	....	....	......	20	12
Contractor and builder	60	21,400	....	....	....	......	50	20
Fish house and packers	337	123,360	....	....	....	......	362	240
Boat repair shops	5	1,800	....	....	....	......	6	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DE SOTO—Continued.							
Total County							
Saw mill products							
Naval stors, turpentine and resin							
Blacksmithing and repair shop							
Shoemaking and repair shop							
Planing mill and novelty works							
Irrigating							
Ice plant							
Elec. light and water plant							
Cigar manufacturing							
Concrete and stone mfg.							

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
DE SOTO—Continued.							
Crate mill	....	....	....	....	....	......	....
Laundry	....	....	....	....	....	......	....
Tailoring	....	....	....	....	....	......	....
Millinery	....	....	....	....	....	......	....
Plumbing and repair works	....	....	....	....	....	......	....
Printing and publishing	....	....	....	....	....	......	....
Wagon shop and repairs	....	....	....	....	....	......	....
Grist mill and products	....	....	....	....	....	......	....
Watch and jewelry repair shop	....	....	....	....	....	......	....
Auto and bicycle repair shop	....	....	....	....	....	......	....
Machine shop	....	....	....	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DE SOTO—Continued.							
Creosote plant	....	....	....	....	....	....	....
Canning factory	....	....	....	....	....	....	....
Contractor and builder	....	....	....	....	....	....	....
Fish house and packers	....	....	....	....	....	....	....
Boat repair shops	....	....	....	....	....	....	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—				
Grand Total County	1,408	$ 14,480,700	26,352	$ 16.642,570
Coffee roasters	2	101,500	47	28,900
Photo adv. slide manufacturing	2	4,000	7	6,300
Metal stamp manufacturing	1	1,000	2	2,500
Gas engine manufacturing	2	25,000	25	20,250
Dairy depots	10	58.000	48	24,400
Jewelry manufacturing	1	3,000	3	2,400
Brick manufacturing	6	120.000	305	167,500
General repair shop	3	8,500	19	15,900
Post card manufacturing	9	2,500	26	18,550

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Extract manufacturing	4	3,500	37	30,000
Publishing	19	216,500	349	139,000
Cabinet makers	19	9,770	69	47,400
Lumber manufacturing	30	3,525,500	4,670	2,783,100
Plumbing	23	95,500	145	147,300
Printing, book and job	35	199,700	288	236,600
Horse shoeing	16	9,875	69	48,600
Gas fitting	6	9,500	33	28,300
Carriage and wagon manufacturing	9	87,000	104	92,600
Sculptors	1	3.000	2	2.000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Blow pipe manufacturing	1	15,000	16	11,000
Cornice manufacturing	3	7,750	24	21,500
Gas manufacturing	3	510,000	166	133,400
Hair goods and dressers	14	5,225	44	34.200
Fertilizer manufacturing	11	1,215,000	2,025	970,000
Turning and scroll sawing	8	17,500	34	24,775
Fish industries	3	610,000	570	312,000
Boat block stands	7	1,900	39	21.500
Shingle manufacturing	1	10,000	35	17.500

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Perfume manufacturing	1	2,000	1	1,000
Ornamental plaster	1	30,000	10	9,000
Screen manufacturing	6	32,000	58	46,400
Dock building	1	10,000	20	10,800
Awning manufacturing	5	29,000	31	29,600
Potterys	2	12,500	35	19,500
Bakeries	37	260,400	306	193,400
Fiber manufacturing	1	25.000	40	28,900
Window cleaning	4	12,000	115	80.500

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Bed manufacturing	2	45,000	65	31,000
Painting and decorating	7	2,900	96	75,400
General contracting	43	398,800	2,188	1,104,500
Sign painting	20	1,210	86	77,400
Artificial limbs	2	1,500	5	2,700
Well drillers	5	2,800	23	11,800
Locksmiths	2	3,500	7	5,600
Wood yards	34	105,400	305	126,000
Marble works	5	46,000	83	80.000
Canning company	1	20.000	50	20,000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Blue print manufacturing	3	3,250	18	16,200
Candy manufacturing	32	252,000	282	174,900
Office and store fixture manufacturing	9	135,000	102	90,000
Steam fitting	9	10,750	104	129,000
Building contracting	92	35,500	2,312	1,631,700
Show case manufacturing	3	14,000	21	14,700
Cigar manufacturing	23	145,000	352	524,500
Bicycle repair shops	34	109,400	164	107,800
Iron and brass foundrys	5	98,000	64	73,200
Tile contracting	5	2,950	22	14,500

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Bottling works	12	79,000	192	138,000
Medicine manufacturing	6	48,500	256	178,100
Sheet metal works	10	70,000	99	96,900
Mattress manufacturing	3	45,000	58	33,000
Overall manufacturing	1	2,000	10	6,000
Rubber stamp manufacturing	3	2,000	22	17,600
Bottle manufacturing	1	10,000	8	8,000
Broom manufacturing	2	50,000	43	35,000
Novelty works	3	26,000	21	11,100
Boilermaking	5	30,000	23	31,000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Macaroni manufacturing	1	5,000	7	4,900
Book binding	1	5,000	5	4,500
Boat building	8	158,000	108	103,600
Rope manufacturing	1	2,500	5	4,500
Millinery	29	91,000	127	106,200
Beer manufacturing	2	160,000	55	33,000
Cloak and suit manufacturing	1	25.000	10	7,000
Book manufacturing	5	26,500	29	21,100
Gun smiths	2	1.500	5	3,900
Barrell manufacturing	1	10,000	20	10,000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Watch making	17	30,500	27	26,600
Machinists repair shops	12	127,500	170	144,000
Photographing	12	52,000	67	46,050
Side walk tile manufacturing	5	33,000	31	18,100
Ladies tailoring	7	7,150	28	22,300
Picture framing	6	6,600	23	17,600
Talking machine repair shop	1	300	1	800
Furniture manufacturing	2	35,000	30	19,500
Crate and box manufacturing	3	170,000	315	167,000
Harness manufacturing	6	14,700	32	25,100

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Picture prt. and developing	3	15,000	20	15,200
Engraving	4	14,500	12	10,700
Tile manufacturing	8	14,700	72	44,200
Electrical contracting	10	20,300	103	85,200
Cement contracting	17	44,150	273	129,650
Railroad contracting	2	17,500	225	105,000
Ship building	1	450,000	350	275,000
Paving contracting	4	20,500	210	112,500
Naval stores	24	1,890.000	4,380	2,648,500
Garages	45	389,200	281	249.100

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Hand launderies	44	23,100	309	147,950
Yeast manufacturing	1	4,000	7	4,900
Dressmaking	81	8,120	180	95,545
Motor cycle repairing	5	15,000	21	15,100
Hauling contracting	5	31,000	92	46,000
Sewer contracting	1	3,000	20	12,000
Dye works	5	7,100	14	9,900
Asphalt roofing	1	5,000	15	7,500
Blacksmith shops	49	20,275	187	141,150
Brick contracting	1	500	10	6,000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Trunk manufacturing	1	25,000	15	12,000
House moving contracting	3	18,000	47	26,500
Artificial stone	5	15,700	47	28,200
Chemical manufacturing	3	19,000	19	17,400
Steam Laundries	9	223,000	345	138,000
Plaster contracting	4	1,300	45	40,500
Automobile repair shops	16	10,430	95	60,850
Furniture repair shops	8	2,150	22	14,300
Bag manufacturing	1	25,000	35	21,000
Upholstering	5	11,500	23	16,100

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Syrup manufacturing	3	80,000	39	24,600
Tailoring	82	24,925	246	191,450
Corset manufacturing	3	3,000	10	6,750
Jewelry repair	25	7,400	37	34,200
Tinning shops	14	44,500	65	77,600
Shoe manufacturing	2	10,000	10	7,000
Vulcanizing	3	7,500	8	8,200
Automobile manufacturing	2	22,000	15	13,500
Window and door frame manufacturing	5	10,500	26	18,200
Shoe making	60	15,150	153	104,900

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
DUVAL—Continued.				
Umbrella manufacturing and repair	2	1,500	7	4,600
Oil works	1	15,000	15	9,000
Typewriter repair shops	10	2,200	26	19,800
Cross tie manufacturing	5	13,000	165	67,500
Tile manufacturing	3	1,550	18	10,800
Composition capitals	1	12,000	25	17,500
Still manufacturing	1	3,000	20	14,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Grand Total County	25,212	$16,100,725	1,040	$521,845	100	20,000	34,952	18,172
Coffee roasters	42	25,900	5	3,000	...	......	58	36
Photo adv. slide manufacturing...........	7	6,300	....	....	...	......	9	5
Metal Stamps manufacturing.............	2	2,500	....	....	...	......	2	2
Gas engine manufacturing	25	20,250	....	....	...	......	27	20
Dairy depots	39	20,700	9	3,700	...	......	58	38
Jewelry manufacturing	3	2,400	....	....	...	......	4	2
Brick manufacturing	305	167,500	....	....	...	......	360	275
General repair shops	19	15,900	....	....	...	......	26	13
Post card manufacturing	26	18,550	....	....	...	......	26	25

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Extract manufacturing	37	30,000	....	....	...	......	42	31
Publishing	230	106,900	19	12,100	100	20,000	286	214
Cabinet makers	69	47,400	....	....	...	......	99	45
Lumber manufactures	4,670	2,783,100	....	....	...	......	5,900	3,440
Plumbing	145	147,300	....	....	...	......	212	102
Printing, book and job	288	256,600	....	....	...	......	342	222
Horse shoeing	69	48,600	....	....	...	......	88	51
Gas Fitting	33	28,300	....	....	...	......	39	25
Carriage and wagon makers	104	92,600	....	....	...	......	132	83
Sculptors	2	2,000	....	....	...	......	3	1

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Blow pipe manufacture	16	11,000	.....	....	...	......	20	12
Cornice manufacture	24	21,500	.....	....	...	......	35	19
Gas manufacture	166	133,400	.....	....	...	......	208	129
Hair goods and dressers	......	....	44	34,200	...	......	59	29
Fertilizer manufactures	2,025	970,000	.....	....	...	......	2,450	1,610
Turning and scroll sawing	34	24,775	.....	....	...	......	42	26
Fish industries	570	312,000	.....	....	...	......	700	450
Boot black stands	39	21,500	.....	....	...	......	39	39
Shingle manufacture	35	17,500	.....	....	...	......	40	30
Perfume manyfacture	1	1,000	.....	....	...	......	2	1

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Ornamental plaster	10	9,000	....	....	...	......	12	6
Screen manufacture	58	46,400	....	....	...	......	77	37
Dock building	20	10,800	....	....	...	......	30	10
Awning manufactures	31	29,600	....	....	...	......	36	26
Potterys	35	19,500	....	....	...	......	35	35
Bakeries	277	182,900	29	10,500	...	......	366	247
Fiber manufacture	40	28,000	....	....	...	......	50	30
Window cleaning	115	80,500	....	....	...	......	150	90
Bed manufacture	65	31,000	....	....	...	......	75	55
Painting and decorating	96	75,400	....	....	...	......	135	51

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
General contracting	2,188	1,104,500	....	....	...	......	3,330	1,028
Sign painting	86	77,400	....	....	...	......	148	41
Artificial limbs	5	2,700	....	....	...	......	6	5
Well drillers	23	11,800	....	....	...	......	36	13
Locksmiths	7	5,600	....	....	...	......	10	4
Wood yards	305	126,000	....	....	...	......	467	164
Marble works	83	80,000	....	....	...	......	98	68
Canning companies	30	12,000	20	8,000	...	......	75	40
Blue print manufacturing	17	15,700	1	500	...	......	23	13
Candy manufacturing	238	157,500	44	17,400	...	......	361	186

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over. Average Number.	Men 16 Years and Over. Wages.	Women 16 Years and Over. Average Number.	Women 16 Years and Over. Wages.	Children Under 16 Years. Average Number.	Children Under 16 Years. Wages.	Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
DUVAL—Continued.								
Office and store fixture manufacturing	102	90,000	.....	....	...	......	123	84
Steam fitting	104	129,000	.....	....	...	......	143	65
Building contracting	2,312	1,631,700	.....	....	...	......	3,161	1,566
Show case manufacture	21	14,700	.....	....	...	......	21	21
Cigar manufacture	337	509,500	15	15,000	...	......	444	263
Bicycle repair shops	164	107,800	.....	....	...	......	210	125
Iron and brass foundries	64	73,200	.....	....	...	......	80	42
Tile contracting	22	14,500	.....	....	...	......	28	16
Bottling works	181	132,200	11	5,800	...	......	241	143
Medicine manufacture	256	178,100	.....	....	...	......	405	164

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Sheet metal works	96	95,400	3	1,500	...	......	135	66
Mattress manufacturing	58	33,000	.....	....	...	......	72	44
Overall manufacture	2	1,600	8	4,400	...	......	15	8
Rubber stamp manufacturing	22	17,600	.....	....	...	......	25	19
Bottle manufacture	8	8,000	.....	....	...	......	8	8
Broom manufacture	43	35,000	.....	....	...	......	70	25
Novelty works	21	11,100	.....	....	...	......	24	15
Boilermaking	23	31,000	.....	....	...	......	34	14
Macaroni manufacturing	7	4,900	.....	....	...	......	8	6
Book binding	5	4,500	.....	....	...	......	5	5

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Boat building	108	103,600					177	62
Rope manufacture	5	4,500					5	5
Millinery			127	106,200			171	92
Beer manufacture	55	33,000					70	40
Cloak and suit manufacturing	10	7,000					12	8
Book manufacture	26	19,250	3	1,850			30	28
Gunsmiths	5	3,900					6	4
Barrel manufacture	20	10,000					25	15
Watchmaking	27	26,600					37	19
Machinists repair shops	170	144,000					208	132

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Photographing	45	37,450	22	8,600			89	42
Sidewalk tile manufacturing	31	18,100					39	23
Ladies tailoring	28	22,300					35	21
Picture framing	23	17,600					28	16
Talking machine repair shop	1	800					2	1
Furniture manufacturing	30	19,500					34	26
Crate and box manufacturing	315	167,000					405	235
Harness manufacturing	31	24,300	1	800			38	26
Picture printing and developing	18	14,100	2	1,100			22	18
Engraving	12	10,700					15	9

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Tile manufactures	72	44,200	.....	....	...	......	107	51
Electrical contracting	94	81,750	9	3,450	...	......	137	69
Cement contracting	258	122,400	15	7,250	...	......	279	191
Railroad contracting	224	104,500	1	500	...	......	350	100
Ship building	350	275,000	.....	....	...	......	400	300
Paving contracting	210	112,500	.....	....	...	......	360	90
Naval stores	4,380	2,648,500	.....	....	...	......	6,205	2,845
Garages	281	249,100	.....	....	...	......	373	194
Hand laundries	113	65,850	196	82,100	...	......	401	215
Yeast manufacture	7	4,900	.....	....	...	......	7	7

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Dressmaking	......	....	180	95,545	...	......	256	117
Motor cycle repairing	21	15,100	.....	....	...	......	24	18
Hauling contracting	92	46,000	.....	....	...	......	142	52
Sewer contracting	20	12,000	.....	....	...	......	25	15
Dye works	11	8,800	3	1,100	...	......	19	9
Asphalt roofing	15	7,500	.....	....	...	......	25	8
Blacksmith shops	187	141.150	.....	....	...	......	255	112
Brick contracting	10	6,000	.....	....	...	......	12	8
Trunk manufacture	13	10,800	2	1,200	...	......	18	12
House moving contracting	47	26,500	.....	....	...	......	60	35

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Artificial stone	47	28,200	.....	....	...	......	71	26
Chemical manufacturing	19	17,400	.....	....	...	......	21	17
Steam laundries	87	49,900	258	88,100	...	......	415	270
Plaster contracting	45	40,500	.....	....	...	......	85	20
Automobile repair shops	95	60,850	.....	....	...	......	112	78
Furniture repair shops	22	14,300	.....	....	...	......	30	14
Bag manufacture	35	21,000	.....	....	...	......	40	20
Upholstering	23	16,100	.....	....	...	......	29	16
Syrup manufacturing	35	22,600	4	2,000	...	......	47	33
Tailoring	246	191,450	.....	....	...	......	320	166

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Corset manufacture	1	800	9	5,950	...	......	10	10
Jewelry repair	37	34,200	....	....	...	......	44	33
Tinning shops	65	77,600	....	....	...	......	97	41
Shoe manufacture	10	7,000	....	....	...	......	12	8
Vulcanizing	8	8,200	....	....	...	......	11	5
Automobile manufacturing	15	13,500	....	....	...	......	16	14
Window and door frame manufacturing	26	18,200	....	....	...	......	36	16
Shoe making	153	104,900	....	....	...	......	216	94
Umbrella manufacturing and repair	7	4,600	....	....	...	......	8	4
Oil works	15	9,000	....	....	...	......	20	10

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
DUVAL—Continued.								
Typewriter repair shops	26	19,800	....	....	...	......	26	26
Cross tie manufacture	165	67,500	....	....	...	......	220	116
Tile manufacturing	18	10,800	....	....	...	......	28	8
Composition capitols	25	17,500	....	....	...	......	30	20
Still manufacturers	20	14,000	....	....	...	......	25	15

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Grand Total County	....	$28,968,787	$35,941,758	....	....	......	....
Coffee Roasters	....	50,000	66,500	....	....	......	....
Photo adv. slide manufacture....	....	11,750	18,150	....	....	......	....
Metal stamp manufacture........	....	6,000	7,850	....	....	......	....
Gas Engine manufacture	....	....	....	....	....	......	....
Dairy depots	....	49,450	78,525	....	....	......	....
Jewelry manufacture	....	5,000	6,700	....	....	......	....
Brick manufacture	....	324,000	372,000	....	....	......	....
General repair shops	....	22,200	26.525	....	....	......	....
Post card manufacture	....	28,400	37,275	....	....	......	....
Extract manufacture	....	44,300	55,400	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Publishing		203,850	749,390				
Cabinet makers		89,855	122,580				
Lumber manufacture		4,140,900	4,432,700				
Plumbing		260,075	323,225				
Printing, book and job		479,870	616,190				
Horse shoeing		65,650	91,225				
Gas fitting		45,300	58,100				
Carriage and wagon manufacturing		154,600	182,100				
Sculptors		4,300	6,500				
Blow pipe manufacture		21,000	27,000				

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Value of Products. Cost of Material and		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Cornice manufacture	....	45,900	58,625	....	....	......	....
Gas manufacture	....	195,400	223,050	....	....	......	....
Hair goods and dressers	....	61,825	85,735	....	....	......	....
Fertilizer manufacture	....	2,455,000	3,996,000	....	....	......	....
Turning and scroll sawing	....	44,050	62,005	....	....	......	....
Fish industries	....	....	....	....	....	......	....
Boot black stands	....	32,525	41,025	....	....	......	....
Shingle manufacture	....	37,000	45,000	....	....	......	....
Perfume manufacture	....	2,000	3,450	....	....	......	....
Ornamental plaster	....	13,000	16,300	....	....	......	....
Screen manufacture	....	62,800	78,500	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Dock building	....	30,000	36,000	....	....	....	....
Awning manufacture	....	51,700	6,900	....	....	....	....
Potterys	....	29,500	39,000	....	....	....	....
Bakeries	....	361,550	506,295	....	....	....	....
Fiber manufacture	....	48,000	54,000	....	....	....	....
Window cleaning	....	99,500	120,000	....	....	....	....
Bed manufacture	....	60,000	91,000	....	....	....	....
Painting and decorating	....	135,900	155,900	....	....	....	....
General contracting	....	2,894,500	3,208,225	....	....	....	....
Sign painting	....	137,150	172,400	....	....	....	....
Artificial limbs	....	9,500	14,500	....	....	....	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Well drillers	....	28,500	48,000	....	....	......	......
Locksmiths	....	9,700	12,650	....	....	......	......
Wood yards	....	233,250	306,550	....	....	......	......
Marble works	....	152,000	179,500	....	....	......	......
Canning company	....	35,000	42,000	....	....	......	......
Blue print manufacture	....	24,000	315,000	....	....	......	......
Candy manufacture	....	281,175	374,695	....	....	......	......
Office and store fixture manufacture	....	150,000	180,400	....	....	......	......
Steam fitting	....	175,500	201,200	....	....	......	......
Building contracting	....	3,658,400	4,003,125	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Show case manufacture	....	23,300	26,850	....	....	......	......
Cigar manufacture	....	746,825	916,550	....	....	......	......
Bicycle repair shops	....	192.150	257.750	....	....	......	......
Iron and brass foundrys	....	138,500	166,800	....	....	......	......
Tile contracting	....	24,000	32,400	....	....	......	......
Bottling works	....	266,000	335,200	....	....	......	......
Medicine manufacture	....	236,100	275,500	....	....	......	......
Sheet metal works	....	156,350	203,575	....	....	......	......
Mattress manufacture	....	78,000	100,000	....	....	......	......
Overall manufacture	....	11,000	14.500	....	....	......	......
Rubber stamp manufacture	....	14,000	18,000	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Bottle manufacture	....	14,000	18,000	....	....	......	....
Broom manufacture	....	53,000	68,525	....	....	......	....
Novelty works	....	22,500	306,675	....	....	......	....
Boilermaking	....	69,070	72,400	....	....	......	....
Macaroni manufacture	....	....	....	....	....	......	....
Book binding	....	9,000	12,000	....	....	......	....
Boat building	....	283,000	318,000	....	....	......	....
Rope manufacture	....	10,000	15,000	....	....	......	....
Millinery	....	208,052	306,825	....	....	......	....
Beer manufacture	....	58,000	87,000	....	....	......	....
Cloak and suit manufacture	....	12,000	16,750	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Book manufacture	....	28,350	36,750	....	....	......	......
Gunsmiths	....	7,200	10,125	....	....	......	......
Barrell manufacturing	....	22,000	25,000	....	....	......	......
Watch making	....	49,900	70,150	....	....	......	......
Machinists repair shops	....	228,610	298,675	....	....	......	......
Photographing	....	93,600	135,700	....	....	......	......
Side walk tile manufacturing	....	32,700	41,475	....	....	......	......
Ladies tailoring	....	38,900	51,215	....	....	......	......
Picture framing	....	28,150	37,150	....	....	......	......
Talking machine repair shop	....	1,600	2,800	....	....	......	......
Furniture Manufacturing	....	36,500	44,500	....	....	......	......

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginnel at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Crate and box manufacturing..	....	265,000	328,000	....	....	......	....
Harness manufacturing	....	58,700	101,105	....	....	......	....
Picture prt. and developing....	....	25,800	34,500	....	....	......	....
Engraving	....	18,400	23,000	....	....	......	....
Tile manufacturing	....	69,900	85,905	....	....	......	....
Electrical contracting	....	147,950	178,200	....	....	......	....
Cement contracting	....	276,500	331,875	....	....	......	....
Railroad contracting	....	225,000	255,500	....	....	......	....
Ship building	....	600,000	650,000	....	....	......	....
Paving contracting	....	370,000	383,000	....	....	......	....
Naval stores	....	3,000,000	3,500,000	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Garages		372,400	590,100				
Hand laundries		255,175	320,400				
Yeast manufacturing		9,700	12,800				
Dressmaking		196,975	275,050				
Motor cycle repairing		26,400	34,875				
Hauling contracting		120,000	155,000				
Sewer contracting		22,000	27,000				
Dye works		17,275	25,800				
Asphalt roofing		19,000	25,000				
Blacksmith shops		230,655	315,390				
Brick contracting		20,000	28,000				

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
DUVAL—Continued.							
Trunk manufacturing	....	25,000	29,000	....	....	......	....
House moving contracting	....	59,000	81,500	....	....	......	....
Artificial stone	....	63,200	81,100	....	....	......	....
Chemical manufacturing	....	29,900	39,000	....	....	......	....
Steam Laundries	....	295,750	362,025	....	....	......	....
Plaster contracting	....	84,000	105,400	....	....	......	....
Automobile repair shops	....	136,575	170,008	....	....	......	....
Furniture repair shops	....	24,550	35,275	....	....	......	....
Bag manufacturing	....	31,000	37,000	....	....	......	....
Upholstering	....	23,000	31,100	....	....	......	....
Syrup manufacturing	....	57,900	72,650	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Tailoring	....	332,160	444,965	....	....	......	....
Corset manufacturing	....	12,000	16,400	....	....	......	....
Jewelry repair	....	72,775	109,255	....	....	......	....
Tinning shops	....	127,950	159,800	....	....	......	....
Shoe manufacture	....	8,000	12,000	....	....	......	....
Vulcanizing	....	17,725	23,300	....	....	......	....
Automobile manufacturing	....	29,000	38,000	....	....	......	....
Window and door frame manufacturing	....	37,200	50,755	....	....	......	....
Shoe making	....	176,190	237,495	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
DUVAL—Continued.							
Umbrella Manufacturing and repair		8,250	15,375				
Oil works		19,000	25,000				
Typewriter repair shops		26,150	35,525				
Cross tie manufacturing		115,000	144,050				
Tile manufacturing		21,500	27,675				
Composition capitals		37,000	46,000				
Still manufacturing		45,000	62,000				

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ESCAMBIA.				
Total County	26	$ 248,692	385	$ 147,436
Saw mill products	3	37,000	90	39,400
Naval stores, Turpentine and Resin	5	44,000	135	45,800
Ginneries and products	1	1,500	3	56
Planing and shingle mill	2	53,000	38	16,183
Blacksmithing and repair shop	5	1,175	6	950
Car shop	1	2,000	6	3,947
Brick kiln	1	25,000	25	2,800
Veneer manufacturing	1	50,000	50	25,000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ESCAMBIA—Continued.				
Auto repair shop	3	1,100	6	900
Wagon works and repair shop	2	4,187	6	3,200
Whiskey Distillery	1	19,000	8	3,200
Manufacturing excelsior	1	10,730	12	6.000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ESCAMBIA—Continued.								
Total County	382	146,136	....	....	3	300	437	179
Saw mill products	90	39,400	....	....	....	......	120	27
Naval stores, turpentine and resin	135	45,800	....	....	....	......	170	92
Ginneries and products	3	56	....	....	....	......	3	3
Planing and shingle mill	36	15,933	....	....	2	250	57	16
Blacksmithing and repair shop	6	950	....	....	....	......	5	5
Car shop	6	3,947	....	....	....	......	9	3
Brick kiln	25	2,800	....	....	....	......	30	20
Veneer manufacturing	50	25,000	....	....	....	......	......	.....

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ESCAMBIA—Continued.								
Auto repair shop	6	900	....	....	....	......	7	4
Wagon works and repair shop	5	3,150	....	....	1	50	10	6
Whiskey distillery	8	3,200	....	....	....	......	12	....
Manufacturing excelsior	12	6,000	....	....	....	......	15	3

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ESCAMBIA—Continued.							
Total County		207,780	301,266	50,000	3,000		
Saw mill products		82,000	122,800				
Naval stors, turpentine and resin.		56,100	55,618				
Ginneries and products				50,000	3,000		
Planing and shingle mill		15,531	16,000				
Blacksmithing and repair shop		1,295	2,140				
Car shop		6,248	8,000				
Brick kiln		6,000	7,158				
Veneer manufacturing		25,000	30,000				
Auto repair shop		4,100	9,200				

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
ESCAMBIA—Continued.							
Wagon works and repair shop...	....	8,206	12,500	....	....	......	....
Whiskey distillery	....	4,600	31,400	....	....	......	....
Excelsior manufacturing	....	3,700	6,450	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
FRANKLIN.				
Total County	60	$ 1,729,300	1,934	$ 861,050
Saw mill and products	2	275,000	200	170,000
Planing, shingle and lumber mill	6	825,000	475	400,000
Naval stores, turpentine and resin	11	275,000	550	90,000
Blacksmithing and repair shop	3	8,500	14	10,000
Machine and iron works	4	55,000	27	26,000
Ship carpentering and repairing	3	8,000	25	15,000
Fish and oyster packing	14	117.000	536	100,000
Ice manufacturing	3	70,000	30	15,000
Automobile repair shop	1	2,500	5	1.000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
FRANKLIN—Continued				
Electril light and power plant	1	50,000	10	9,000
Soda water mfg. and bottling works	1	10,000	10	3,000
Marine ways	3	24,500	35	8,000
Bakery	3	4,500	8	7,000
Cabinet makers	1	3,000	4	6,000
Bicycle and repair shop	1	500	1	400
Shoe and repair shop	1	200	1	200
Tin shop	1	400	2	250
Upholstering	1	200	1	200

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
FRANKLIN—Continued.								
Total County	1,834	$841,050	75	$ 15,000	25	$5,000	2,666	1,129
Saw mill and products	200	170,000	....	....	....	......	250	100
Planing, shingle and lumber mill	475	400,000	....	....	....	......	690	465
Naval stores, turpentine and rosin	530	90,000	....	....	....	......	825	330
Blacksmithing and repair shop	14	10,000	....	....	....	......	20	9
Machine and iron works	27	26,000	....	....	....	......	41	27
Ship carpentering and repairing	25	15,000	....	....	....	......	45	20
Fish and oyster packing	436	80,000	75	15,000	25	5,000	655	106
Ice manufacturing	30	15,000	....	....	....	......	40	10
Automobile repair shop	5	1,000	....	....	....	......	5	5

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
FRANKLIN—Continued.								
Electric light and power plant	10	9,000	....	....	....	......	8	5
Soda water manufacturing and bottling works	10	3,000	....	....	....	......	10	10
Marine ways	35	8,000	....	....	....	......	60	25
Bakery	8	7,000	....	....	....	......	8	8
Cabinet makers	4	6,000	....	....	....	......	4	4
Bicycle and repair shop	1	400	....	....	....	......	1	1
Shoe and repair shop	1	200	....	....	....	......	1	1
Tin shop	2	250	....	....	....	......	2	2
Upholstering	1	200	....	....	....	......	1	1

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
FRANKLIN—Continued.							
Total County	....	1,163,100	1.514,700	....	....	....	....
Saw mill and products	....	225,000	300,000	....	....	....	....
Planing, shingle and lbr. mill	....	541,000	682,000	....	....	....	....
Naval stores, turpentine and resin	....	132,000	165,000	....	....	....	....
Blacksmithing and repair shop	....	13,700	19,000	....	....	....	....
Machine and iron works	....	35,000	48.000	....	....	....	....
Ship carpentering and repairing	....	20.000	29,000	....	....	....	....
Fish and oyster packing	....	125,000	169.500	....	....	....	....
Ice manufacturing	....	21,000	32,000	....	....	....	....
Automobile repair shop	....	1,500	3,000	....	....	....	....
Elec. light and power plant	....	12,000	15.000	....	....	....	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
FRANKLIN—Continued.							
Soda water mfg. and bot. works	....	6,000	9,000	....	....	....	....
Marine ways	....	11,000	15,200	....	....	....	....
Bakery	....	10,600	13,800	....	....	....	....
Cabinet makers	....	8,000	12,000	....	....	....	....
Bicycle and repair shop	....	500	800	....	....	....	....
Shoe and repair shop	....	250	400	....	....	....	....
Tin shop	....	300	600	....	....	....	....
Upholstering	....	250	400	....	....	....	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
GADSDEN.				
Total County	33	$ 311,200	450	$ 141,740
Saw mill and products	3	2,400	28	6,500
Naval stores, turpentine and resin	2	75,000	180	46,000
Ginneries and products	6	5,500	14	860
Grist mill and products	9	6,000	14	2,900
Blasksmithing and repair shop	9	2,300	9	3,200
Mining Fuller's Earth	3	210,000	195	80,200
Ice manufacturing	1	10,000	10	2,280

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
GADSDEN—Continued.								
Total County	450	$141,740	....	....	....	......	453	270
Saw mill and products	28	6,500	....	....	....	......	28	16
Naval stores, turpentine and resin	180	46,000	....	....	....	......	180	100
Ginneries and products	14	860	....	....	....	......	12	8
Grist mill and products	14	2,900	....	....	....	......	14	11
Blacksmithing and repair shop	9	3,200	....	....	....	......	14	9
Mining Fuller's Earth	195	80,200	....	....	....	......	195	120
Ice manufacturing	10	2,280	....	....	....	......	10	6

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
GADSDEN—Continued.							
Total County	....	$ 249,715	$ 322,181	360.000	5,100	23,291	468
Saw mill and products..........	....	39,000	50,000	....	....	....	....
Naval stores, turp. and resin....	....	94,000	103,400	....	....	....	....
Ginneries and products	....	1,135	2.181	360,000	5,100	23,291	468
Grist mill and products.........	....	4,100	6,800	....	....	....	....
Blacksmithing and repair shop..	....	4.100	6,500	....	....	....	....
*Mining Fuller's Earth	....	102,300	142,900	....	....	....	....
Ice manufacturing	....	5,080	10,400	....	....	....	....

*20,750 tons; value $91,000.

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HAMILTON.				
Total county	58	$ 368,550	432	$ 180,200
Saw mills and products	8	167,000	123	62,000
Naval stores, turpentine and resin	10	132,000	196	82,000
S. I. C. ginneries and products	10	34,000	57	8,100
Blacksmithing and repair shop	6	3,300	8	3,500
Grist mill and products	11	8,550	19	4,650
Shingle mill and products	1	2,000	5	3,000
Machine and repair shop	4	7,500	8	7,000
Electric light plant	2	4,500	3	2,250

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HAMILTON—Continued.				
Ice manufacturing	1	1,500	3	2,000
Bottling works	2	2,700	5	2,500
Millinery	3	5,500	5	3,200

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HAMILTON—Continued.								
Total County.	400	$168,800	5	$ 3,200	27	$8,200	514	359
Saw mills and products	109	55,500	....	....	14	6,500	147	98
Naval stores, turpentine and resin	196	82,000	....	....	....	......	228	159
S. I. C. ginneries and products	46	7,000	....	....	11	1,100	70	54
Blacksmithing and repair shop	8	3,500	....	....	....	......	10	7
Grist mill and products	19	4,650	....	....	....	......	19	18
Shingle mill and products	5	3,000	....	....	....	......	5	4
Machine and repair shop	8	7,000	....	....	....	......	12	8
Electric light plant	3	2,250	....	....	....	......	5	2

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HAMILTON—Continued.								
Ice manufacturing	3	2,000	....	....	....	......	4	3
Bottling works	3	1,900	....	....	2	600	7	3
Millinery	.....	....	5	3,200	....	......	7	3

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HAMILTON—Continued.							
Total County	....	$ 278,375	$ 362,800	....	620,000	......	44,500
Saw mills and products	....	117,700	165,500	....	....	......	....
Naval stores, turp. and resin	....	109,000	130,000	....	....	......	....
S. I. C. ginnersies and products	....	12,200	18,800	....	620,000	......	44,500
Blacksmithing and repair shop	....	5,150	6,300	....	....	......	....
Grist mill and products	....	6,325	8,600	....	....	......	....
Shingle mill and products	....	7,000	9,000	....	....	......	....
Machine and repair shop	....	8,750	10,100	....	....	......	....
Electric light plant	....	3,000	4,000	....	....	......	....
Ice manufacturing	....	2,500	2,500	....	....	......	....
Bottling works	....	2,850	3,300	....	....	......	....
Millinery	....	3,900	4,700	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HERNANDO.				
Total County	13	$ 538,250	676	$ 370,500
Saw mill and products	1	500,000	600	350,000
Naval stores, turpentine and resin	5	16,000	50	8,000
Shingle manufacturing	1	5,000	10	2,500
Blacksmithing and repair shop	3	4,750	5	3,500
Machine and repair shop	1	5,000	3	2,500
Auto and repair shop	1	2,500	3	2,000
Ice manufacturing	1	5,000	5	2,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Least No. Employed at Any One Time During the Year in Industry.	Greatest No. Employed at Any One Time During Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HERNANDO—Continued.								
Total County	676	$370,500	....	....	....	......	1,038	602
Saw mill and products	600	350,000	....	....	....	......	800	500
Naval stores, turpentine and resin	50	8,000	....	....	....	......	185	85
Shinge manufacturing	10	2,500	....	....	....	......	30	5
Blacksmithing and repair shop	5	3,500	....	....	....	......	9	5
Machine and repair shop	3	2,500	....	....	....	......	5	2
Auto and repair shop	3	2,000	....	....	....	......	4	2
Ice manufacturing	5	2,000	....	....	....	......	5	3

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HERNANDO—Continued.							
Total County		$ 538,500	$ 1,062,000				
Saw mill and products		500,000	1,000,000				
Naval stores, turp. and resin		19,500	25.500				
Shingle manufacturing		3,500	5,000				
Blacksmithing and repair shop		4,500	8,500				
Machine and repair shop		5,000	10,000				
Auto and repair shop		3,000	5,000				
Ice manufacturing		3,000	8.000				

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HILLSBOROUGH				
Total County	847	$ 16,340,057	16,988	$ 13,404,522
Automobile repairing	24	302,500	147	155,552
Bakeries	18	65,200	101	77,080
Bicycles and motorcycles	15	19,950	29	23,504
Blacksmiths and wheelwrights	30	16,200	63	50,564
Book binding and job printing	15	133,750	93	84,920
Bottling works	8	58,000	34	23,764
Box factories	3	152,000	451	245,960
Cabinet makers	6	2,300	11	9,620
Cigar factories	188	4,507,700	11,344	8,814,794

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HILLSBOROUGH—Continued.				
Coal burners	44	6,381	61	9,231
Coffee grinders and tea blending	9	40,100	43	36,504
Concrete and tile contractors	8	24,050	61	34,176
Cross ties and wood choppers	21	2,950	60	28,704
Dress makers and milliners	66	44,245	117	59,332
Electrical engineers and supply companies	8	12,200	23	18,472
Furniture repairing	11	1,350	14	6,032
General Contractors	72	187,700	803	817,114
Harness makers and repairers	7	14,850	9	7,760
Ice cream manufacturing	29	56,775	69	48,932

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HILLSBOROUGH—Continued.				
Ice factories	5	600,000	100	80,028
Jewelry and watch repairing	20	15,650	31	35,776
Machinery and iron works	18	744,000	585	695,096
Miscellaneous manufacturing	66	8,363,646	1,714	1,314,330
Naval stores, turpentine and rosin	6	134,000	240	148,080
Photographers	11	35,650	32	26,988
Piano repairing	8	1,525	14	16,860
Plumbers—tinning and sheet metal works	20	199,700	132	153,047
Proprietary and pharmaceutical products	9	5,400	16	10,140

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HILLSBOROUGH—Continued.				
Saw and planing mills	16	532,300	391	270,778
Shoe makers and repairing	47	11,935	59	33,708
Tailoring and repairing	25	30,025	79	58,244
Typewriter repairing	4	2,475	9	9,256
Wood yards	10	15,550	53	20,176

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HILLSBOROUGH—Continued.								
Total County	13,569	$11,548,186	3,398	1852,544	21	3,792	18,460	14,960
Automobile repairing	146	154,772	1	780	...	......	147	147
Bakeries	96	75,286	5	1,794	...	......	101	101
Bicycles and motorcycles	28	22,984	1	520	...	......	29	29
Blacksmiths and wheelwrights	62	50,408	.....	....	1	156	65	64
Book binding and job printing	88	82,532	3	1,560	2	828	93	93
Bottling works	33	22,568	1	1,196	...	......	34	34
Box factories	212	143,208	235	101,920	4	832	479	419
Cabinet makers	11	9,620	.....	....	...	......	11	11
Cigar factories	8,429	7,184,246	2,915	1630,548	...	......	12,497	9,634

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HILLSBOROUGH—Continued.								
Coal burners	61	9,231	.....	....	...	......	61	61
Coffee grinders and tea blending	39	34,424	3	1,872	1	208	43	43
Concrete and tile contractors	61	34,176	.....	....	...	......	61	61
Cross tie and wood choppers	60	28,704	.....	....	...	......	60	60
Dress makers and milliners	......	....	117	59,332	...	......	117	117
Electrical engineers and supply companies	22	18,316	.....	....	1	156	23	23
Furniture repairing	14	6,032	.....	....	...	......	14	14
General contractors	803	817,114	.....	....	...	......	803	803
Harness makers and repairers	9	7,760	.....	....	...	......	9	9
Ice cream manufacturing	64	46,800	5	2,132	...	......	69	69

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HILLSBOROUGH—Continued.								
Ice factories	100	80,028	.....	....	...	......	116	84
Jewelry and watch repairing	31	35,776	.....	....	...	......	31	31
Machinery and iron works	585	695,096	.....	....	...	......	665	495
Miscellaneous manufacturing	1,614	1,271,136	100	43,194	...	......	1,916	1,545
Naval stores, turpentine and rosin	240	148,080	.....	....	...	......	230	230
Photographers	27	22,828	5	4,160	...	......	32	32
Piano repairing	14	16,860	.....	....	...	......	15	12
Plumbers—tinning and sheet metal works	131	132,267	1	780	...	......	132	132
Saw and planing mills	16	10,140	.....	....	...	......	16	16
Proprietary and pharmaceutical products	390	269,998	1	780	...	......	391	391

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HILLSBOROUGH—Continued.								
Shoe makers and repairing	59	33,708	.....	....	...	......	59	59
Tailoring and repairing	74	56,268	5	1,976	...	......	79	79
Typewriter repairing	9	9,256	.....	....	...	......	9	9
Wood yards	41	18,564	.....	....	12	1,612	53	53

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HILLSBOROUGH—Continued.							
Total County	....	$43,841,292	....	....	....	....	....
Automobile repairing	....	1,043,944	....	....	....	....	....
Bakeries	....	301,954	....	....	....	....	....
Bicycles and motorcycles	....	99,640	....	....	....	....	....
Blacksmiths and wheelwrights	....	126,020	....	....	....	....	....
Book binding and job printing	....	228,920		....	....	....	....
Bottling works	....	197,440	....	....	....	....	....
Box factories	....	483,500	....	....	....	....	....
Cabinet makers	....	15,860	....	....	....	....	....
Cigar factories	....	24,663,986	....	....	....	....	....
Coal burners	....	25,980	....	....	....	....	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HILLSBOROUGH—Continued.							
Coffee grinders and tea blending		425,048					
Concrete and tile contractors		86,168					
Cross tie and wood choppers		54,188					
Dress makers and milliners		197,484					
Electrical engineers and supply companies		85,720					
Furniture repairing		9,048					
General contractors		3,172,050					
Harness makers and repairers		86,476					
Ice cream manufacturers		265,102					
Ice factories		616,800					

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HILLSBOROUGH—Continued.							
Jewelry and watch repairing ...	....	60,440	....	....	....	......	....
Machinery and iron works	....	1,550,600	....	....	....	......	....
Miscellaneous manufacturing ...	....	6,906,138	....	....	....	......	....
Naval stores, turpentine and rosin	....	415,300	....	....	....	......	....
Photographers	....	112,320	....	....	....	......	....
Piano repairing	....	29,660	....	....	....	......	....
Plumbers—tinning and sheet iron works	....	746,400	....	....	....	......	....
Proprietary and pharmaceutical products	....	26,720	....	....	....	......	....
Saw and planing mills	....	1,452,120	....	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HILLSBOROUGH—Continued.							
Shoe makers and repairing		66,008					
Tailoring and repairing		164,276					
Typewriter repairing		16,500					
Wood yards		109,482					

Number of Cigars—322,727,800.
Number barrels of Rosin—17,550.
Number barrels of Turpentine—12,980.

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
HOLMES.				
Total County	34	$ 448,375	614	$ 523,525
Saw mill and products	10	235,200	352	443,500
Naval stores, turpentine and resin	12	205,000	250	76,400
Blacksmithing and repair shop	4	475	4	1,050
Grist mill and products	3	2,300	3	600
Ginneries and products	5	5,400	5	1,975

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
HOLMES—Continued.								
Total County	614	$523 525	....	....	....	......	711	316
Saw mill and products	352	443,500	....	....	....	......	353	180
Naval stores, turpentine and resin	250	76.400	....	....	....	......	351	129
Blacksmithing and repair shop	4	1,050	....	....	....	......	4	4
Grist mill and products	3	600	....	....	....	......	1	1
Ginneries and products	5	1,975	....	....	....	......	2	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
HOLMES—Continued.							
Total County	....	$ 696,950	$ 1.206,350	910.000	....	25,300	....
Saw mill and products	....	570,500	954,000	....	....	......	....
Naval stores, turp. and resin	....	125,400	249,600	....	....	......	....
Blacksmithing and repair shop	....	150	1,100	....	....	......	....
Grist mill and products	....	900	1,650	....	....	......	....
Ginneries and products	....	....	....	910.000	....	25,300	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
JACKSON.				
Total County	105	$ 411,870	713	$ 171.550
Saw mill and products	21	54,100	141	50,300
Naval stores, turpentine and resin	23	265,000	392	83.200
Ginneries and products	18	48,000	78	11,980
Grist mill and products	16	14,550	23	5,870
Blacksmithing and repair shop	16	2,370	18	5,150
Bottling works	3	15,000	14	4,300
Brick manufacturing	1	3,650	16	4.800
Shingle mill and products	5	6.200	17	5,150
Sugar plant	2	3,000	14	800

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
JACKSON—Continued.								
Total County	713	$171,550	....	....	....	......	879	352
Saw mill and products	141	50,300	....	....	....	......	201	55
Naval stores, turpentine and resin	392	83,200	....	....	....	......	500	204
Ginneries and products	78	11,980	....	....	....	......	72	37
Grist mill and products	23	5,870	....	....	....	......	20	12
Blacksmithing and repair shop	18	5,150	....	....	....	......	18	3
Bottling works	14	4,300	....	....	....	......	16	12
Brick manufacturing	16	4,800	....	....	....	......	16	16
Shingle mill and products	17	5,150	....	....	....	......	21	6
Sugar plant	14	800	....	....	....	......	15	7

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
JACKSON—Continued.							
Total County	....	$ 284,465	$ 479,405	7,065.000	....	830,115	....
Saw mill and products	....	41,000	60,000	....	....	....	....
Naval stores, turp. and resin	....	197,050	304,900	....	....	....	....
Ginneries and products	....	3,900	6,000	7,065,000	....	830,115	....
Grist mill and products	....	5,470	18,260	....	....	....	....
Blacksmithing and repair shop	....	3,695	6,295	....	....	....	....
Bottling works	....	27,800	41,500	....	....	....	....
Brick manufacturing	....	1,500	32,000	....	....	....	....
Shingle mill and products	....	2,800	5,700	....	....	....	....
Sugar plant	....	1.250	4.750	....	....	....	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
JEFFERSON.				
Total County	320	$ 116,450	1,347	$ 85,400
Syrup manufacture	225	6,960	741	11,719
Saw mill and products	18	30,120	153	19,820
Naval stores, turpentine and resin	8	28,500	275	31,050
Ginneries and products	18	22,590	77	6,955
Grist mill and products	18	6,200	36	3,716
Blacksmithing and repair shop	15	4,605	17	2,865
Planing, lathe and shingle mill	6	5,900	26	2,050
Cooper shop	7	575	7	1,125

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
JEFFERSON—Continued.				
Bottling works	2	1,700	4	2,400
Ice manufacture	1	8,000	5	1,600
Cigar factory	1	100	1	600
Auto repair shop	1	1,200	5	1.500

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
JEFFERSON—Continued.								
Total County	1,347	$ 85,400	....	....	....	......	1,463	1,121
Syrup manufacture	741	11,719	....	....	....	......	765	650
Saw mill and products	153	19,820	....	....	....	......	198	108
Naval stores, turpentine and resin	275	31,050	....	....	....	......	319	200
Ginneries and products	77	6,955	....	....	....	......	77	76
Grist mill and products	36	3,716	....	....	....	......	37	34
Blacksmithing and repair shop	17	2,865	....	....	....	......	17	15
Planing, lathe and shingle mill	26	2,050	....	....	....	......	28	19
Cooper shop	7	1,125	....	....	....	......	7	7

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
JEFFERSON—Continued.								
Bottling works	4	2,400	....	....	....	......	4	4
Ice manufacture	5	1,600	....	....	....	......	5	5
Cigar factory	1	600	....	....	....	......	1	1
Auto repair shop	5	1,500	....	....	....	......	5	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
JEFFERSON—Continued.							
Total County	....	$ 70,138	$ 119,356	2.172,340	72,000	94,255	5,520
Syrup manufacture	....	17.955	25,392	....	....	......	....
Saw mill and products	....	7,720	13,746	....	....	......	....
Naval stores, turp. and resin	....	25,600	35,100	....	....	......	....
Ginneries and products	....	5,208	12,255	2,172,340	72,000	94,255	5,520
Grist mill and products	....	2,925	4,678	....	....	......	....
Blacksmithing and repair shop	....	2.875	7.540	....	....	......	....
Planing, lathe and shingle mill	....	1.250	2,275	....	....	......	....
Cooper shop	....	3,250	6,220	....	....	......	....
Bottling works	....	1.100	2,100	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
JEFFERSON—Continued.							
Ice manufacture	....	1,800	4,300	....	....	......	......
Cigar factory	....	105	750	....	....	......	......
Auto repair shop	....	350	5 000	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LA FAYETTE.				
Total County	9	$ 104,000	115	$ 22,970
Naval Stores, turpentine and resin	3	90,500	85	20,300
Ginneries and products	6	13,500	30	2,670

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LAFAYETTE—Continued.								
Total County.	115	$ 22,970	....	....	....	......	126	74
Naval stores, turpentine and resin............	85	20,300	....	....	....	......	90	60
Ginneries and products	30	2,670	....	....	....	......	36	14

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LA FAYETTE—Continued.							
Total County	....	$ 65,273	$ 111,350	....	174,375	......	11.280
Naval stores, turp. and resin.....	....	65,000	106,680	....	....	......	....
Ginneries and products	....	273	4.670	....	174.375	......	11.280

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LAKE.				
Total County	56	$ 794,980	1,077	$ 357,223
Saw mill and products	7	355,000	370	144,400
Naval stores, turpentine and resin	8	202,000	340	92,900
Contracting, building and repair shop	14	8,610	70	32.500
Citrus fruit packing house	3	30.670	140	18,000
Auto and repair shop	4	15,300	11	7,400
Novelty works	3	29,500	55	13,000
Publishing and printing	3	19,000	12	5.823
Brick manufacturing	1	15.000	14	7.000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LAKE—Continued.				
Water, light and power plant	2	80,000	17	13,300
Plumbing and repair works	2	3,000	7	4,300
Ice manufacturing	2	20,000	11	6,700
Cross tie manufacturing	1	1,000	10	5,000
Photographing	1	2,500	1	200
Cement manufacturing	3	7,000	15	4,800
Bakery	2	6.400	4	1,900

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LAKE—Continued.								
Total County	1,053	$353,843	19	$ 2,877	5	$ 503	1,343	431
Saw mill and products	370	144,400	....	....	....	......	385	223
Naval stores, turpentine and resin	337	92,750	....	....	3	150	300	65
Contracting, building and repair shop	70	32,500	....	....	....	......	145	20
Citrus Fruit packing house	124	16,600	15	1,200	1	200	304	27
Auto and repair shop	11	7,400	....	....	....	......	23	9
Novelty works	54	12,520	1	480	....	......	66	15
Publishing and printing	10	5,150	1	320	1	153	12	11
Brick manufacturing	14	7,000	....	....	....	......	15	12

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LAKE—Continued.								
Water, light and power plant	17	13,300	....	....	....	......	22	17
Plumbing and repair works	7	4.300	....	....	....	......	11	5
Ice manufacturing	11	6,700	....	....	....	......	13	10
Cross tie manufacturing	10	5,000	....	....	....	......	12	6
Photographing	1	200	....	....	....	......	2	1
Cement manufacturing	15	4,800	....	....	....	......	28	6
Bakery	2	1.223	2	677	....	......	5	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LAKE—Continued.							
Total County		$ 739,045	$ 965,460				
Saw mill and products		252,900	313,400				
Naval stores, turp. and resin		160,260	199,760				
Contracting, bldg. and rep. shop		90,600	128,200				
Citrus fruit packing house		59,350	85,300				
Auto repair shop		36,100	49,000				
Novelty works		56,250	58,250				
Publishing and printing		6,085	13,700				
Brick manufacturing		9,700	12,000				
Water, light and power plant		20,000	39,500				
Plumbing and repair works		11,500	16,000				

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LAKE—Continued.							
Ice manufacturing	....	13,200	16,000	....	....	....	....
Cross tie manufacturing	....	3,150	5,250	....	....	....	....
Photographing	....	1,700	3,000	....	....	....	....
Cement manufacturing	....	11,250	15,100	....	....	....	....
Bakery	....	7,000	11,000	....	....	....	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LEE.				
Total County	50	$ 371,225	227	$ 163,900
Saw mill and products	4	10,800	17	12,000
Boat building and repair shop	4	3,300	10	8,550
Blacksmithing and repair shop	5	4,250	9	7,650
Repair shops	9	10,075	19	12,300
Canneries and products	3	152,000	64	30,000
Ice and electric plant	2	150,000	28	27,000
Millinery and tailoring	5	5,800	12	6,300
Bakery	1	300	1	700
Wood and novelty works	3	5,000	7	6,750

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LEE—Continued.				
Machine shop	2	10,000	17	18,000
Cigar manufacturing	3	3,000	9	10,650
Cement manufacturing	3	7,500	15	9,600
Tin and repair shop	3	1,700	9	7,800
Bottling works	2	6,000	6	4,200
Wood yard	1	1,500	4	2,400

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LEE—Continued.								
Total County	207	$157 900	20	$ 6,000	....	......	241	204
Saw mill and products	17	12,000	....	....	....	......	17	17
Boat building and repair shop	10	8,550	....	....	....	......	10	10
Blacksmithing and repair shop	9	7,650	....	....	....	......	9	9
Repair shops	19	12,300	....	....	....	......	19	19
Canneries and products	44	24,000	20	6,000	....	......	60	60
Ice and electric plant	28	27,000	....	....	....	......	28	28
Millinery and tailoring	12	6,300	....	....	....	......	12	12
Bakery	1	700	....	....	....	......	1	1
Wood and novelty works	7	6,750	....	....	....	......	9	5

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LEE—Continued.								
Machine shop	17	18,000	....	....	....	......	25	8
Cigar manufacturing	9	10,650	....	....	....	......	12	6
Cement manufacturing	15	9,600	....	....	....	......	20	10
Tin and repair shop	9	7,800	....	....	....	......	9	9
Bottling works	6	4,200	....	....	....	......	6	6
Wood yard	4	2,400	....	....	....	......	4	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LEE—Continued.							
Total County	....	$ 315,350	$ 479,600	....	....	......	....
Saw mill and products	....	19,200	30,500	....	....	......	....
Boat building and repair shop ...	....	15,400	20,700	....	....	......	....
Blacksmithing and repair Shop..	....	9,550	12,600	....	....	......	....
Repair shops	....	24,900	35,100	....	....	......	....
Canneries and products	....	100,500	186,000	....	....	......	....
Ice and electric plant	....	27,000	33,000	....	....	......	....
Millinery and tailoring	....	21,000	29,900	....	....	......	....
Bakery	....	900	1,500	....	....	......	....
Wood and novelty works	....	10,350	15,300	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LEE—Continued.							
Machine shop		27,000	37,500				
Cigar manufacturing		12,000	16,500				
Cement manufacturing		23,250	29,400				
Tin and repair shop		12,000	14,500				
Bottling works		7,800	11,100				
Wood yard		4,500	6,000				

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.'	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LEON—				
Total County	21	$ 197,500	161	$ 46,600
Saw mills and products	6	13,900	46	10,000
Naval stores, turpentine and rosin	2	3,000	73	8,500
Blacksmithing and repair shop	6	5,300	11	2,800
Ginneries and products	4	10,500	14	4,700
Grist mills and products	2	800	3	600
Electric light, gas and water plant	1	164,000	14	20.000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LEON—Continued.								
Total County	161	$ 46,600	....	$.......	...	.....	147	104
Saw mills and products	46	10,000	....	....	...	.....	50	40
Naval stores, turpentine and resin	73	8,500	....	....	...	.....	55	22
Blacksmithing and repair shop	11	2,800	....	....	...	.....	11	11
Ginneries and products	14	4,700	....	....	...	.....	14	14
Grist mills and products	3	600	....	....	...	.....	3	3
Electric light, gas and water plant	14	20,000	....	....	...	.....	14	14

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LEON—Continued.							
Total County	....	$ 61,400	$ 90,200	....	....	......	....
Saw mills and products	....	15,000	22,000	....	....	......	....
Naval stores, turpentine and rosin	....	13,000	17,000	....	....	......	....
Blacksmithing and repair shops..	....	3,600	6,000	....	....	......	....
Ginneries and products	....	6,000	9,000	....	....	......	....
Grist mills and products	....	800	1,200	....	....	......	....
Electric light, gas and water plant	....	23,000	35,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LEVY—				
Total County	44	537,450	926	287,775
Saw mills and products	7	302,300	326	124,470
Naval stores, turpentine and rosin	12	99,000	367	92,630
Blacksmithing and repair shops	4	2,000	4	1,600
Ginneries and products	1	1,500	4	200
Phosphate mining	1	30,000	50	15,000
Vegetable packers	2	45,000	105	29,500
Irrigation plants	16	42,650	40	4,375
Rock crusher	1	15,000	30	20,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LEVY—Continued.								
Total County	857	266,435	25	5,500	44	15,840	1,042	6,72
Saw mills and products	302	113,070	.....	....	24	11,400	376	281
Naval stores, turpentine and rosin	357	91,190	.....	....	10	1,440	412	257
Blacksmithing and repair shop	4	1,600	.....	....	....	......	5	4
Ginneries and products	4	200	.....	....	....	......	8	2
Phosphate mining	40	12,000	.....	....	10	3,000	50	40
Vegetable packers	80	24,000	25	5,500	....	......	115	45
Irrigating plant	40	4,375	.....	....	....	......	41	23
Rock crusher	30	20,000	.....	....	....	......	35	20

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LEVY—Continued.							
Total County	....	$ 244,590	$ 367,780	....	....	......	......
Saw mills and products	....	91,200	125,000	....	....	......	......
Naval stores, turpentine and rosin	....	74,040	120,980	....	....	......	......
Blacksmithing and repair shops.	....	2,350	3,700	....	....	......	......
Ginneries and products	....	800	1,600	....	....	......	......
Phosphate mining	....	19,000	29,000	....	....	......	......
Vegetable packers	....	29,000	43,000	....	....	......	......
Irrigating plant	....	9,200	12,500	....	....	......	......
Rock crusher	....	19,000	22,000	....	....	......	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
LIBERTY—				
Total County	25	341,000	586	188,955
Saw mills and products	3	24,200	19	3,330
Naval stores, turpentine and rosin	20	315,700	565	185,350
Grist mill and ginneries	2	1,100	2	275

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
LIBERTY—Continued.								
Total County	571	$188,040	.....	$........	15	915	786	489
Saw mills and products	19	3,330	.....	....	.....	......	24	16
Naval stores, turpentine and rosin	550	184,435	.....	....	15	915	760	471
Grist mill and Ginneries	2	275	.....	....	.....	......	2	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Value of Products. Cost of Material and		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
LIBERTY—Continued.							
Total County	....	$ 69,972	$ 328,353	33,000	....	1,900	....
Saw mills and products	....	2,250	7,880	....	....	......	....
Naval stores, turpentine and rosin	....	67,262	319,750	....	....	......	....
Grist mill and ginneries	....	460	723	33,000	....	1,900	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
MADISON—				
Total County	70	$ 1,630,100	1,352	$ 529,658
Saw mills and products	13	801,400	472	227,180
Naval stores, turpentine and rosin	14	440,000	670	216,000
Ginneries and products, S. I. cotton and cotton oil mill	20	350,000	134	61,260
Grist mill and products	6	6,100	27	3,550
Blacksmith and repair shop	5	6,000	10	3,700
General repair shop	7	6,200	12	2,908
Bottling works	2	1,300	4	700
Plumbing and repair shop	2	6,600	3	1,800
Planing mill	1	12,500	20	11,960

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
MADISON—Continued. Total County	1,325	$524,058	5	$ 600	22	5,000	1,568	1,063
Saw mill and products	472	227,180	....	....	....	......	499	440
Naval stores, turpentine and rosin	650	212,600	....	....	20	4,000	775	540
Ginneries and products, S. I. Cotton and cotton oil mill	127	59,660	5	600	2	1,000	203	45
Grist mill and products	27	3,550	....	....	....	......	30	16
Blacksmith and repair shop	10	3,700	....	....			12	5
General repair shop	12	2,908	....	....	....	......	16	9
Bottling works	4	700	....	....	....	......	6	2
Plumbing and repair shop	3	1,800	....	....	....	......	4	2
Planing mill	20	11,960	....	....	....	......	23	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
MADISON—Continued.							
Total County	....	$ 624,230	$ 754,895	293,400	1,738,608	26,100	121,980
Saw mills and products	....	245,100	280,200	....	....	......	....
Naval stores, turpentine and rosin	....	237,000	301,000	....	....	......	....
Ginneries and products, S. I. Cotton and cotton oil mill	....	113,330	133,395	293,400	1,738,608	26,100	121,980
Grist mills and products	....	4,100	6,000	....	....	......	....
Blacksmith and repair shops	....	4,200	5,500	....	....	......	....
General repair shops	....	4,100	6,300	....	....	......	....
Bottling works	....	1,200	2,000	....	....	......	....
Plumbing and repair shops	....	2,200	3,500	....	....	......	....
Planing mill	....	13,000	17,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
MANATEE—				
Total County	26	$ 373,900	217	$ 123,070
Saw mills and products	3	13,000	14	3,500
Naval stores, turpentine and rosin	2	149,000	84	35,000
Novelty works	3	21,800	19	20,400
Blacksmith and repair shop	4	2,700	10	3,800
Bottling works	2	9,000	10	6,270
Cigar manufacturing	4	7,200	21	10,500

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
MANATEE—Continued.				
Ice manufacturing	2	105,000	28	12,200
Light and ice plant	1	55,000	6	15,000
Jelly	1	1,500	8	200
Rice huller	1	500	3	500
Garage and machine shop	3	9,200	14	15,700

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
MANATEE—Continued.								
Total County	215	$122,570	2	$ 500	....	......	265	161
Saw mill and products	14	3,500	....	....	....	......	14	11
Naval stores, turpentine and rosin	84	35,000	....	....	....	......	95	75
Novelty works	19	20,400	....	....	....	......	26	13
Blacksmith and repair shop	10	3,800	....	....	....	......	10	5
Bottling works	10	6,270	....	....	....	......	12	9
Cigar manufacturing	19	10,000	2	500	....	......	37	12

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Least No. Employed at Any One Time During the Year in Industry.	Greatest No. Employed at Any One Time During Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
MANATEE—Continued.								
Ice manufacturing	28	12,200	....	....	....	......	32	15
Light and ice plant	6	15,000	....	....	....	......	6	4
Jelly	8	200	....	....	....	......	12	3
Rice huller	3	500	....	....	....	......	3	2
Garage and machine shop	14	15,700	....	....	....	......	18	12

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
MANATEE—Continued.							
Total County	....	$ 187,150	$ 250,600	....	....	......	....
Saw mills and products	....	1,900	4,500	....	....	......	....
Naval stores, turpentine and rosin	....	45,000	61,000	....	....	......	....
Novelty works	....	48,900	57,500	....	....	......	....
Blacksmith and repair shop	....	4,000	6,500	....	....	......	....
Bottling works	....	15,500	26,000	....	....	......	....
Cigar manufacturing	....	12,000	17,000	....	....	......	....
Ice manufacturing	....	25,000	31,000	....	....	......	....
Light and ice plant	....	16,200	21,500	....	....	......	....
Jelly	....	400	2,000	....	....	......	....
Rice huller	....	250	600	....	....	......	....
Garage and machine shops	....	18,000	23,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
MARION.				
Total County	64	$ 1,545,800	3,143	$ 1,589,100
Saw Mill and products	16	560,000	832	830,900
Naval stores, turpentine and resin	24	506,500	1,831	413,000
Cigar factory	3	15,000	14	15,000
Crate and basket factory	2	57,000	65	50,000
Bottling works	3	8,500	20	13,000
Lime manufacture	3	127,000	191	100,000
Ice manufacture	3	85,000	40	35,000
Barrel factory	1	5,000	15	18,000
Gas plant	1	30,000	15	12,000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
MARION—Continued.				
Moss factory	1	4,000	9	8,000
Foundry and machine shop	1	110,000	50	60,000
Ginneries and products	1	15,000	35	16,000
Fertilizer plant	1	17,000	7	9,000
Stone and cement manufacture	1	3,000	8	7,000
Peanut thrasher	2	1,600	8	1,200
Velvet bean huller	1	1,200	3	1,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
MARION—Continued.								
Total County	1,735	1206,800	734	$ 224,300	674	158,000	3,682	2,489
Saw mill and products	481	601,600	182	142,300	169	87,000	979	679
Naval stores, turpentine and resin	904	306,000	491	59,000	436	48,000	2,180	1,450
Cigar factory	14	15,000	....	....	....	....	14	14
Crate and basket factory	42	46,000	9	2,000	14	2,000	80	45
Bottling works	20	13,000	....	....	....	....	28	15
Lime manufacture	88	60,000	48	19,000	55	21,000	165	148
Ice manufacture	40	35,000	....	....	....	....	53	25
Barrel factory	15	18,000	....	....	....	....	20	5
Gas plant	15	12,000	....	....	....	....	20	10

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
MARION—Continued.								
Moss factory	5	6,000	4	2,000	....	....	14	6
Foundry and machine shop	50	60,000	....	....	....	....	60	40
Ginneries and products	35	16,000	....	....	....	....	40	30
Fertilizer plant	7	9,000	....	....	....	....	10	5
Stone and cement manufacture	8	7,000	....	....	....	....	10	6
Peanut thrasher	8	1,200	....	....	....	....	8	8
Velvet bean huller	3	1,000	....	....	....	....	3	3

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
MARION—Continued.							
Total County	....	$ 2,622,500	$ 3,122,000	16,000	185,000	345	13,000
Saw mill and products	....	1,635,000	1,883,000	....	....	......	....
Naval stores, turp. and resin	....	490,500	611,000	....	....	......	....
Cigar factory	....	17,000	27,000	....	....	......	....
Crate and basket factory	....	64,000	80,000	....	....	......	....
Bottling work	....	17,000	25,000	....	....	......	....
Lime manufacture	....	132,000	153,000	....	....	......	....
Ice manufacture	....	60,000	80,000	....	....	......	....
Barrel factory	....	30,000	40,000	....	....	......	....
Gas plant	....	15,000	20,000	....	....	......	....
Moss factory	....	12,000	16,000	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
MARION—Continued.							
Foundry and machine shop		80,000	100,000				
Ginneries and products		30,000	40,000	16,000	185,000	345	13,000
Fertilizer plant		27,000	30,000				
Stone and cement manufacture		8,000	10,000				
Peanut thrasher		3,000	4,000				
Velvet bean huller		2,000	3,000				

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
MONROE.				
Total County	68	$ 2,963,212	2,262	$ 1,619,334
Cigar manufacture	60	2,480,712	2,143	1,532,514
Machine shop	4	368,000	38	40,340
Cigar box factory	1	100,000	70	36,400
Blacksmith and repair shop	2	4,500	8	7,740
Saw mill and products	1	10,000	3	2,340

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
MONROE—Continued.								
Total County	1,939	1513,083	323	$ 106,251	....	....	2,884	1,428
Cigar manufacture	1,870	1441,863	273	90,651	....	....	2,742	1,355
Machine shop	38	40,340	....	....	....	....	51	27
Cigar box factory	20	20,800	50	15,600	....	....	80	35
Blacksmith and repair shop	8	7,740	....	....	....	....	8	8
Saw mill and products	3	2,340	....	....	....	....	3	3

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
MONROE—Continued.							
Total County	....	$ 2,638,091	$ 4,424,757	....	....	......	....
Cigar manufacture	....	2,486,659	4,167,305	....	....	......	....
Machine shop	....	68,866	118,906	....	....	......	....
Cigar box factory	....	60,666	103,126	....	....	......	....
Blacksmith and repair shop	....	12,900	21,420	....	....	......	....
Saw mill and products	....	9,000	14,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
NASSAU.				
Total County	66	$ 361,050	705	$ 214,950
Saw mill and products	24	106,400	175	57,600
Naval stores, turpentine and resin	14	159,000	257	76,150
Grist mill and products	4	3,600	8	1,950
Bottling works	2	2,600	3	1,200
Blacksmith and repair shop	6	4,000	6	3,600
Ice manufacture	2	40,000	21	8,600
Machine shop	4	7,100	10	5,700
Brick yard	1	3,000	12	5,000
Canneries	3	20,000	180	45,300

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
NASSAU—Continued.				
Shoe shop and repairs	2	1,100	2	1,200
Plumbing and repairs	1	2,500	2	1,250
Syrup manufacture	2	1,750	14	1,400
Palm manufacture	1	10,000	15	6,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
NASSAU—Continued.								
Total County	705	$214,950	....	....	...	......	1,110	375
Saw mill and products	175	57,600	....	....	...	......	294	113
Naval stores, turpentine and resin	257	76,150	....	....	...	......	354	158
Grist mill and products	8	1,950	....	....	...	......	10	4
Bottling works	3	1,200	....	....	...	......	10	2
Blacksmith and repair shop	6	3,600	....	....	...	......	8	6
Ice manufacture	21	8,600	....	....	...	......	23	17
Machine shop	10	5,700	....	....	...	......	16	7
Brick yard	12	5,000	....	....	...	......	15	10
Canneries	180	45,300	....	....	...	......	318	39

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
NASSAU—Continued.								
Shoe shop and repairs....................	2	1,200	.....	....	....	......	2	2
Plumbing and repairs....................	2	1,250	.....	....	....	......	6	1
Syrup manufacture	14	1,400	.....	....	....	......	24	9
Palm manufacture	15	6,000	.....	....	....	......	30	7

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
NASSAU—Continued.							
Total County		$ 371,550	$ 590,100				
Saw mill and products		108,350	187,400				
Naval stores, turp. and resin		117,550	171,500				
Grist mill and products		2,400	3,550				
Bottling works		1,100	1,500				
Blacksmith and repair shop		4,450	7,700				
Ice manufacture		18,000	24,000				
Machine shop		8,800	13,700				
Brick yard		9,000	12,500				
Canneries		78,400	130,750				

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
NASSAU—Continued.							
Shoe shop and repairs	....	1,700	4,000	....	....	......	....
Plumbing and repairs	....	9,000	12,000	....	....	......	....
Syrup manufacture	....	2,000	5,500	....	....	......	....
Palm manufacture	....	7,000	10,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ORANGE—				
Total County	33	$ 1,127,000	737	$ 334,669
Saw mill and products	1	3,000	6	4,300
Naval stores, turpentine and rosin	5	351,500	157	44,142
Blacksmith and repair shop	1	3,000	6	4,680
Auto and repair shop	7	47,000	33	25,247
Machine and general repair shop	6	105,600	51	28,620
Bicycle and repair shop	2	2,800	2	1,620
Crate and basket manufacturing, and novelty works	6	570,300	437	192,000
Shoe and repair shop	1	1,000	2	720

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ORANGE—Continued.				
Cigar manufacturing	1	36,600	45	30,000
Concrete and stone manufacturing	2	1,700	5	1,640
Ice manufacturing	1	5,000	3	1,700

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ORANGE—Continued.								
Total County	737	$334,669	....	$........	....	......	957	521
Saw mills and products	6	4,300	....	....	....	......	6	6
Naval stores, turpentine and rosin	157	44,142	....	....	....	......	230	120
Blacksmith and repair shop	6	4,680	....	....	....	......	8	4
Auto and repair shop	33	25,247	....	....	....	......	43	28
Machine and general repair shop	51	28,620	....	....	....	......	74	36
Bicycle and repair shop	2	1,620	....	....	....	......	2	2
Crate and basket manufacturing, and novelty works	427	192,000	....	....	....	......	525	283
Shoe and repair shop	2	720	....	....	....	......	2	2

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ORANGE—Continued.								
Cigar manufacturing	45	30,000	....	....	....	......	55	35
Concrete and stone manufacturing	5	1,640	....	....	....	......	7	3
Ice manufacturing	3	1,700	....	....	....	......	5	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ORANGE—Continued.							
Total County	....	$ 616,313	$ 813,560	....	....	......	....
Saw mills and products	....	6,000	6,720	....	....	......	....
Naval stores, turpentine and rosin	....	89,133	129,000	....	....	......	....
Blacksmith and repair shop	....	5,500	10,000	....	....	......	....
Auto and repair shop	....	34,460	53,500	....	....	......	....
Machine and general repair shop.	....	53,700	81,300	....	....	......	....
Bicycle and repair shop	....	2,600	7,800	....	....	......	....
Crate and basket manufacturing and novelty works	....	352,720	441,040	....	....	......	....
Shoe and repair shop	....	900	1,200	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ORANGE—Continued.							
Cigar manufacture	....	66,000	75,000	....	....	......	....
Concrete and stone manufacturing	....	3,100	5,000	....	....	......	....
Ice manufacturing	....	2,200	3,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
OSCEOLA—				
Total County	20	$ 182,000	177	$ 82,090
Saw mill and products	2	113,000	95	46,000
Naval stores, turpentine and rosin	2	46,000	48	16,200
Blacksmith and repair shop	2	4,000	4	2,940
Garage and repair shop	2	6,500	8	5,900
Cigar manufacturing	2	1,000	4	1,000
Shoe shop and repairing	3	1,050	4	1,350
Tin and plumbing shop	1	200	2	700
Bottling works	1	3,000	2	2,000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
OSCEOLA—Continued.				
Ice manufacturing	1	3,000	2	2,000
Bicycle and repair shop	2	1,250	2	1,800
Concrete manufacturing	2	3,000	6	2,200

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
OSCEOLA—Continued.								
Total County	177	$ 82,090	....	....	....	.....	233	95
Saw mills and products	95	46,000	....	....	....	.....	120	50
Naval stores, turpentine and rosin	48	16,200	....	....	....	.....	50	20
Blacksmith and repair shop	4	2,940	....	....	....	.....	7	3
Garage and repair shop	8	5,900	....	....	....	.....	13	8
Cigar manufacturing	4	1,000	....	....	....	.....	4	2
Shoe shop and repair	4	1,350	....	....	....	.....	6	3
Tin and plumbing shop	2	700	....	....	....	.....	3	1
Bottling works	2	2,000	....	....	....	.....	3	2

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
OSCEOLA—Continued.								
Ice manufacturing	2	2,000	.....	....	....	......	3	2
Bicycle and repair shop	2	1,800	.....	....	....	......	2	2
Concrete manufacturing	6	2,200	.....	....	....	......	22	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
OSCEOLA—Continued. Total County	....	$ 121,400	$ 188,200	....	....	......	....
Saw mills and products	....	58,000	87,000	....	....	......	....
Naval stores, turpentine and rosin	....	17,000	27,000	....	....	......	....
Blacksmith and repair shop.....	....	4,000	8,000	....	....	......	....
Garage and repair shop	....	6,200	14,100	....	....	......	....
Cigar manufacturing	....	3,300	5,600	....	....	......	....
Shoe shop and repairing	....	2,500	4,000	....	....	......	....
Tin and plumbing shop	....	2,000	3,000	....	....	......	....
Bottling works	....	4,000	6,000	....	....	......	....
Ice manufacturing	....	4,000	6,000	....	....	......	....
Bicycle and repair shop	....	2,400	5,500	....	....	......	....
Concrete manufacturing	....	18,000	22,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PALM BEACH—				
Total County	154	$ 530,235	1,008	$ 511,620
Saw mills and products	1	3,500	16	12,000
General contracting and building	47	60,150	290	184,800
Blacksmithing and repairing	7	3,900	9	6,100
Bakery	7	13,300	21	10,800
Shoemaker and repairing	8	2,200	13	8,530
Bottling works	1	6,000	2	3,600
Dress maker and repairing	5	1,050	9	2,700
Cigar manufacturing	4	4,350	18	16,300
Novelty works	2	30,000	17	5,900

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PALM BEACH—Continued.				
Boat building and repairing	6	20,500	17	13,550
Cement and concrete manufacturing	6	6,250	36	20,500
Fish packing house	7	48,500	247	67,300
Electric light, ice and water plant	4	157,885	37	30,520
Tailor and repair shop	1	500	2	500
Laundry	6	7,200	32	13,700
Plumbing and repairing	6	5,000	19	20,500
Sheet metal works	2	5,000	13	6,000
Watch maker and repairs	4	6,250	7	5,500
Auto and bicycle repair shop	14	25,100	29	20,420

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PALM BEACH—Continued.				
Iron and wood works	1	6,000	4	3,600
Machine and repair works	4	27,500	11	6,900
Crate manufacturing	1	2,000	17	12,000
Publishing and printing	4	49,000	29	17,000
Millinery and repairs	2	1,100	6	2,400
Fruit packing house	3	13,000	82	14,500
Electric Contractors	1	25,000	25	6,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PALM BEACH—Continued.								
Total County	998	$507,420	10	$ 4,400	....	......	1,455	624
Saw mills and products	16	12,000	....	....	....	......	16	10
General contracting and building	290	184,800	....	....	....	......	523	162
Blacksmithing and repairs	9	6,100	....	....	....	......	14	7
Bakery	21	10,800	....	....	....	......	29	17
Shoemaker and repairs	13	8,530	....	....	....	......	16	10
Bottling works	2	3,600	....	....	....	......	3	1
Dress making and repairs	1	300	8	2,400	....	......	11	5
Cigar manufacturing	16	14,300	2	2,000	....	......	25	13
Novelty works	17	5,900	....	....	....	......	20	9

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over. Average Number.	Men 16 Years and Over. Wages.	Women 16 Years and Over. Average Number.	Women 16 Years and Over. Wages.	Children Under 16 Years. Average Number.	Children Under 16 Years. Wages.	Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
PALM BEACH—Continued.								
Boat building and repairs	17	13,550	....	....	....	......	27	9
Cement and concrete manufacturing	36	20,500	....	....	....	......	70	16
Fish packing house	247	67,300	....	....	....	......	266	135
Electric light, ice and water plant	37	30,520	....	....	....	......	61	35
Tailor and repair shop	2	500	....	....	....	......	3	2
Laundry	32	13,700	....	....	....	......	57	22
Plumbing and repairs	19	20,500	....	....	....	......	36	10
Sheet metal works	13	6,000	....	....	....	......	18	7
Watch maker and repairs	7	5,500	....	....	....	......	8	5
Auto and bicycle repair shop	29	20,420	....	....	....	......	41	20

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PALM BEACH—Continued.								
Iron and wood works	4	3,600	....	....	....	......	6	3
Machine and repair works	11	6,900	....	....	....	......	16	6
Crate manufacturing	17	12,000	....	....	....	......	25	15
Publishing and printing	29	17,000	....	....	....	......	33	25
Millinery and repairs	6	2,400	....	....	....	......	6	3
Fruit packing house	82	14,500	....	....	....	......	95	57
Electric contractors	25	6,000	....	....	....	......	30	20

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (Including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
PALM BEACH—Continued.							
Total County	....	$ 921,100	$ 1,312,000	....	....	......	....
Saw mills and products	....	17,000	23,000	....	....	......	....
General contracting and building	....	401,500	571,000	....	....	......	....
Blacksmith and repair shop	....	9,600	15,000	....	....	......	....
Bakeries	....	20,100	31,000	....	....	......	....
Shoemaker and repairs	....	10,900	16,600	....	....	......	....
Bottling works	....	5,000	7,000	....	....	......	....
Dress maker and repairs	....	4,500	6,200	....	....	......	....
Cigar manufacturing	....	29,000	26,000	....	....	......	....
Novelty works	....	9,000	12,000	....	....	......	....
Boat building and repairing	....	22,100	32,500	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
PALM BEACH—Continued.							
Cement and concrete manufacturing	....	27,700	40,000	....	....	......	....
Fish packing houses	....	40,500	60,000	....	....	......	....
Electric light, ice and water plant	....	95,000	130,000	....	....	......	....
Tailor and repair shop	....	64,500	95,000	....	....	......	....
Laundry	....	900	1,500	....	....	......	....
Plumbing and repairs	....	21,600	34.100	....	....	......	....
Sheet metal works	....	8,000	11,500	....	....	......	....
Watch maker and repairs	....	8,000	11,500	....	....	......	....
Auto and bicycle repair shop	....	31,400	49,600	....	....	......	....
Iron and wood works	....	5,000	7.000	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
PALM BEACH—Continued.							
Machine and repair works	....	13,000	22,000	....	....	......	....
Crate manufacturing	....	17,000	23,000	....	....	......	....
Publishing and printing	....	28,000	41,000	....	....	......	....
Millinery and repairs	....	3,800	6,500	....	....	......	....
Fruit packing houses	....	18,000	25,000	....	....	......	....
Electric contractors	....	10,000	14,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PASCO—				
Total County	44	$ 478,800	924	$ 348,595
Saw mills and products	10	95,100	425	188,600
Naval stores, turpentine and rosin	8	295,000	380	119,520
Blacksmith and repairs	2	1,400	5	2,360
Contractor and builder	2	1,100	8	4,920
Irrigation	5	16,000	8	2,255
Publishing and printing	3	7,200	7	2,300
Machine and repair shop	1	2,000	5	6,600
Packing house	2	2,200	58	5,200
Bakery	3	3,800	5	1,320

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PASCO—Continued.				
Millinery	1	4,000	2	1,200
Electric light and ice plant	3	41,000	12	10,000
Auto repair shop	3	9,000	6	2,880
Concrete manufacturing	1	1,000	3	1,440

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PASCO—Continued.								
Total County	919	$347,595	.....	$........	5	1.000	1,245	758
Saw mills and products	425	188,600	.....	....	....	......	539	347
Naval stores, turpentine and rosin	375	118,520	.....	....	5	1,000	497	315
Blacksmith and repairs	5	2,360	.....	....	....	......	11	4
Contractor and builder	8	4,920	.....	....	....	......	30	5
Irrigation	8	2,255	.....	....	....	......	37	8
Publishing and printing	7	2,300	.....	....	....	......	11	6
Machine and repair shop	5	6,600	.....	....	....	......	10	1
Packing house	58	5,200	.....	....	....	......	58	48
Bakery	5	1,320	.....	....	....	......	6	5

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PASCO—Continued.								
Millinery	2	1,200	....	....	....	......	8	2
Electric light and ice plant	12	10,000	....	....	....	......	20	10
Auto repair shop	6	2,880	....	....	....	......	10	6
Concrete manufacturing	3	1,440	....	....	....	......	8	1

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Value of Products. Cost of Material and		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
PASCO—Continued.							
Total County	....	$ 529,500	$ 727,500	....	....	......	....
Saw mills and products	....	286,000	395,000	....	....	......	....
Naval stores, turpentine and rosin	....	172,000	228,000	....	....	......	....
Blacksmith and repairs	....	3,500	5,200	....	....	......	....
Contractor and builder	....	11,000	15,000	....	....	......	....
Irrigation	....	4,900	7,700	....	....	......	....
Publishing and printing	....	5,500	7,800	....	....	......	....
Machine and repair shop	....	8,000	11,000	....	....	......	....
Packing house	....	8,600	12,000	....	....	......	....
Bakery	....	2,500	3,500	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
PASCO—Continued.							
Millinery	....	2,000	2,800	....	....	......	....
Electric light and ice plant	....	17,500	25,000	....	....	......	....
Auto repair shop	....	6,000	10,500	....	....	......	....
Concrete manufacturing	....	2,000	4,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PINELLAS.				
Total County	26	$ 700,500	342	$ 198,350
Saw mill and products	9	273,800	169	98,230
Auto and repairs	3	138.000	31	18,200
Concrete manufacture	5	35,700	66	30,000
Blacksmith and repairs	4	16,000	13	6,500
Ice manufacture	3	220,000	44	31,400
Bottling works	1	7,000	4	2,000
Packing house	1	10,000	15	12,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PINELLAS—Continued.								
Total County	342	$198,350	....	....	....	......	449	196
Saw mill and products	169	98,250	....	....	....	......	216	91
Auto and repairs	31	18,200	....	....	....	......	41	20
Concrete manufacture	66	30,000	....	....	....	......	90	25
Blacksmith and repairs	13	6,500	....	....	....	......	15	12
Ice manufacture	44	31.400	....	....	....	......	57	38
Bottling works	4	2,000	....	....	....	......	5	2
Packing house	15	12,000	....	....	....	......	25	8

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
PINELLAS—Continued.							
Total County	....	$ 516,500	$ 795,000	....	....	......	....
Saw mill and products	....	338,500	501,500	....	....	......	....
Auto and repairs	....	28.200	64.000	....	....	......	....
Concrete manufacture	....	36,600	57,500	....	....	......	....
Blacksmith and repairs	....	15,500	24,000	....	....	......	....
Ice manufacture	....	59.500	101,000	....	....	......	....
Bottling works	....	8.200	12,000	....	....	......	....
Packing house	....	30,000	35,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
POLK.				
Total County	21	$ 114,050	186	$ 52,709
Saw mill and products	2	2,500	10	1,794
Naval stors, turpentine and resin	3	28,250	115	16,880
Ice manufacture	2	40,000	14	4,760
Blacksmith and repair shop	6	6,300	12	4,860
Bottling works	2	12,000	8	1,600
Cigar manufacture	1	3,000	3	705
Auto and repair shop	3	8,500	15	17,230
Foundry and machine shop	1	12,000	7	4,200
Rice mill	1	1,500	2	680

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.
Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
POLK—Continued.								
Total County	186	$ 52,709	....	....	....	......	229	169
Saw mill and products	10	1,794	....	....	....	......	12	7
Naval stores, turpentine and resin	115	16,880	....	....	....	......	137	102
Ice manufacture	14	4,760	....	....	....	......	18	12
Blacksmith and repair shop	12	4,860	....	....	....	......	16	12
Bottling works	8	1,600	....	....	....	......	10	6
Cigar manufacture	3	705	....	....	....	......	7	3
Auto and repair shop	15	17,230	....	....	....	......	17	15
Foundry and machine shop	7	4,200	....	....	....	......	10	5
Rice mill	2	680	....	....	....	......	2	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
POLK—Continued.							
Total County	....	$ 91,229	$ 140,735	....	....	......	....
Saw mill and products	....	2,294	4,950	....	....	......	....
Naval stores, turp. and resin	....	21,000	33,650	....	....	......	....
Ice manufacture	....	6,150	10,875	....	....	......	....
Blacksmith and repair shop	....	9,685	14,895	....	....	......	....
Bottling works	....	2,400	4,200	....	....	......	....
Cigar manufacture	....	1,750	4,365	....	....	......	....
Auto and repair shop	....	44,950	57,450	....	....	......	....
Foundry and machine shop	....	1,000	7,250	....	....	......	....
Rice mill	....	2.000	3,100	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PUTNAM.				
Total County	223	$ 2,035,400	2,291	$ 1,105,975
House painting	10	1,100	18	13,200
Fertilizers	1	40,000	16	7,200
Moving pictures	2	12,000	7	3,500
Millinery	9	8,250	17	10,600
Cross Ties	7	2,700	92	5,900
Road building	1	500	8	3,000
Shoe repairing	11	650	11	7,700
Dress making	19	1,550	23	10,350
Water works	2	225,000	10	8,200

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PUTNAM—Continued.				
Plumbing and tinning	4	5,500	14	12,500
Newspapers	6	17,000	23	17,000
Sign painting	5	350	6	5,400
Men's tailoring	7	650	13	7,800
Cleaning and pressing	9	800	12	6,240
Window and door frames	2	700	4	3,100
Screens	1	500	2	1,600
Wall decorators	2	300	3	2,400
Jewelry and watch repairs	6	2,750	7	6,300
Ice manufacturing	3	59,000	35	19,500

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PUTNAM—Continued.				
Naval stores	11	282,000	355	139,500
Buckets and tubs	1	40,000	70	32,000
Auto blocks	1	5,000	10	3,600
Job printing	6	10,000	7	6,800
Building	8	2,500	48	29,500
Concrete blocks	1	600	2	10,000
Boat building and repairs	6	3,000	9	8,100
Bakeries	3	5,200	7	5,310
Bicycle repairs	5	700	5	2,700
Electrical repairs	3	3,500	5	5,000

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PUTNAM—Continued.				
Boiler making	4	50,000	27	17,000
Blacksmiths	9	3,700	15	10,700
Marine railways	3	4,600	12	7,200
Marine hoist	1	5,000	4	3,600
Cooperage	1	2,000	10	1,500
Gun and locksmiths	4	300	4	2,200
Shingles	3	6,500	16	8,200
Gravel	1	10,000	15	6,000
Lumber	12	760,000	877	403,335
Bottling works	2	11,500	8	5,500

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PUTNAM—Continued.				
Laundries	2	4,000	14	3,900
Pile driving	1	6,000	16	7,200
Photography	3	9,000	5	5,200
Novelty works	1	500	2	1,600
Wood yards	3	900	6	3,000
Stone manufacturing	1	10,000	12	6,500
Cigar manufacturing	5	26,600	37	25,900
Kaolin	1	50,000	70	31,500
Foundries	2	11,000	12	9,300
Machine shops	5	21,000	34	26,440

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
PUTNAM—Continued.				
Tank manufacture	1	40,000	13	9,000
Gas manufacture	1	50,000	4	2,500
Electric light work	1	50,000	8	5,000
Sash and doors manufacture	1	150,000	180	88,400
Garage and auto repair	2	12,000	13	15,300
Grates and veneers manufacture	1	9,000	38	15,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PUTNAM—Continued.								
Total County	2,243	1080,861	48	$ 25,114	....	......	2,754	1,812
House painting	18	13,200	.....	....	....	......	28	8
Fertilizers	16	7,200	.....	....	....	......	20	12
Moving pictures	7	3,500	.....	....	....	......	9	5
Millinery	.....	....	17	10,600	....	......	26	8
Cross ties	92	5,900	.....	....	....	......	117	67
Road building	8	3,000	.....	....	....	......	10	6
Shoe repairing	11	7,700	.....	....	....	......	22	0
Dressmaking	.....	....	23	10,350	....	......	42	4
Water works	9	7,600	1	600	....	......	.....	.....

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Least No. Employed at Any One Time During the Year in Industry.	Greatest No. Employed at Any One Time During Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PUTNAM—Continued.								
Plumbing and tinning	14	12,500	....	....	....	......	19	9
Newspapers	23	17,000	....	....	....	......	29	17
Sign painting	6	5,400	....	....	....	......	11	1
Men's tailoring	13	7,800	....	....	....	......	20	6
Cleaning and pressing	12	6,240	....	....	....	......	21	3
Window and door frames	4	3,100	....	....	....	......	6	8
Screens	2	1,600	....	....	....	......	3	1
Wall decorators	3	2,400	....	....	....	......	5	1
Jewelry and watch repairs	7	6,300	....	....	....	......	13	1
Ice manufacturing	35	19,500	....	....	....	......	42	28

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PUTNAM—Continued.								
Naval stores	355	139,500	....	....	....	......	436	274
Buckets and tubs	70	32,000	....	....	....	......	80	60
Auto blocks	10	3,600	....	....	....	......	12	8
Job printing	7	6,800	....	....	....	......	13	1
Building	48	29,500	....	....	....	......	62	34
Concrete blocks	2	1,000	....	....	....	......	2	0
Boat building and repairs	9	8,100	....	....	....	......	15	3
Bakeries	7	5,310	....	....	....	......	10	4
Bicycle repairs	5	2,700	....	....	....	......	10	0
Electrical repairs	5	5,000	....	....	....	......	8	2

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PUTNAM—Continued.								
Boiler making	27	17,000	....	....	...	......	34	20
Blacksmiths	15	10,700	....	....	...	......	25	5
Marine railways	12	7,200	....	....	...	......	16	8
Marine hoist	4	3,600	....	....	...	......	5	3
Cooperage	10	1,500	....	....	...	......	13	7
Gun and locksmiths	4	2,200	....	....	...	......	8	0
Shingles	16	8,200	....	....	...	......	22	10
Gravel	15	6,000	....	....	...	......	20	10
Lumber	877	403,335	....	....	...	......	968	786
Bottling works	8	5,500	....	....	...	......	11	5

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over,		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PUTNAM—Continued.								
Laundries	9	2,416	5	1,484	....	......	18	10
Pile driving	16	7,200	....	....	....	......	20	12
Photography	3	3,120	2	2,080	....	......	8	2
Novelty works	2	1,600	....	....	....	......	3	1
Wood yards	6	3,000	....	....	....	......	9	3
Stone manufacture	12	6,500	....	....	....	......	14	10
Cigar manufacturing	37	25,900	....	....	....	......	46	28
Kaolin	70	31,500	....	....	....	......	80	60
Foundries	12	9,300	....	....	....	......	14	10
Machine shops	34	26,440	....	....	....	......	39	29

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
PUTNAM—Continued.								
Tank manufacture	13	9,000	....	....	....	......	16	10
Gas manufacture	4	2,500	....	....	....	......	5	3
Electric light work	8	5,000	....	....	....	......	9	7
Sash and doors manufacture	180	88,400	....	....	....	......	200	160
Garage and auto repair	13	15,300	....	....	....	......	16	10
Crates and veneers manufacture	38	15,000	....	....	....	......	44	32

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
PUTNAM—Continued.							
Total County		$2,848,405	$ 4,562,600				
House painting		26,500	365,500				
Fertilizers							
Moving pictures		16,000	25,000				
Millinery		21,600	43,200				
Cross ties		75,047	101,400				
Road building							
Shoe repairing		9,900	15,400				
Dressmaking		17,250	34,500				
Water works							
Plumbing and tinning		26,800	53,600				
Newspapers		33,000					

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
PUTNAM—Continued.							
Sign painting	....	10,250	15,250	....	....	......	......
Men's tailoring	....	12,000	19,000	....	....	......	......
Cleaning and pressing	....	8,400	15,900	....	....	......	......
Window and door frames	....	5,800	11,600	....	....	......	......
Screens	....	2,000	4,000	....	....	......	......
Wall decorators	....	3,700	8,500	....	....	......	......
Jewelry and watch repairs	....	11,200	22,400	....	....	......	......
Ice manufacturing	....	25,000	44,500	....	....	......	......
Naval stores	....	326,300	479,200	....	....	......	......
Buckets and tubs	....	75,000	100,000	....	....	......	......
Auto blocks	....	4,500	6,000	....	....	......	......

Job printing		10,250	19,850				
Building		81,000	109,700				
Concrete blocks		4,500	6,500				
Boat building and repairs							
Bakeries		10,500	21,000				
Bicycle repairs		6,300	12,600				
Electrical repairs		10,000	20,000				
Boiler making		66,000	106,000				
Blacksmiths		19,300	38,600				
Marine railways							
Marine hoist							
Cooperage		4,000	80,000				
Gun and locksmiths		3,000	6,000				
Shingles		28,500	57,000				
Gravel							
Lumber		1,256,508	2,016,400				
Bottling Works		17,000	34,000				
Laundries		7,500	13,000				
Pile driving							
Photography		9,800	18,500				
Novelty Works		2,000	4,000				
Wood yards		6,000	12,000				

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
PUTNAM—Continued.							
Stave manufacturing		15,000	19,500				
Cigar manufacturing		34,800	53,000				
Kaolin			270,000				
Foundries		23,000	42,000				
Machine shops		64,000	114,000				
Tank manufacture		64,000	80,000				
Gas manufacture							
Electric light work							
Sash and doors manufacture		320,000	335,000				
Garage and auto repair							
Crates and veneers manufacture		75,000	90,000				

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (Including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
SANTA ROSA—				
Total County	187	$ 4,604,025	2,754	$ 1,100,036
Saw mills and products	61	3,145,545	1,371	633,091
Naval stores, turpentine and rosin	41	1,133,630	1,120	386,370
Ginneries and products	12	6,445	31	1,600
Grist mills and products	20	13,450	30	3,215
Blacksmith and repair shops	13	7,290	18	7,885
Dry kilns	10	98,000	72	33,800
Newspaper publishing	2	8,350	4	2,950
Millinery and repairs	3	7,000	3	1,700
Shoe and repair shop	1	1,000	2	1,200

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
SANTA ROSA—Continued.				
Machine and repair shop	3	58,000	22	9,740
Syrup manufacturing	9	3,415	42	1,005
Jewelery and repair shop	2	6,000	4	2,600
Ice and electric light plants	2	70,000	6	3,200
Bottling works	3	15,500	11	3,500
Cement manufacturing	1	500	3	200
Auto and repair shop	1	2,800	2	600
Bakery	1	2,100	3	1,060
Glue factory	1	10,000	4	1,200
Fertilizer factory	1	15,000	6	4,500

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
SANTA ROSA—Continued.								
Total County	2,736	$ 1,095,636	14	$ 3,900	4	5,000	3,674	1,939
Saw mills and products	1,371	633,091	....	....	...	......	1,783	1,014
Naval stores, turpentine and rosin	1,110	384,370	10	2,000	...	......	1,505	769
Ginneries and products	31	1,600	....	....	...	......	42	17
Grist mills and products	30	3,215	....	....	...	......	43	20
Blacksmith and repair shop	18	7,885	....	....	...	......	28	13
Dry kiln	72	33,800	....	....	...	......	108	46
Newspaper publishing	4	2,950	....	....	...	......	7	3
Millinery and repairing	......	....	3	1,700	...	......	3	3
Shoe and repair shop	2	1,200	....	....	...	......	3	1

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
SANTA ROSA—Continued.								
Machine and repair shop	20	9,540	....	....	2	200	36	9
Syrup manufacturing	42	1,005	....	....	...	......	59	23
Jewelery and repair shop	4	2,600	....	....	...	......	6	2
Ice and electric light plant	6	3,820	....	....	...	......	12	3
Bottling works	9	3,200	....	....	2	300	14	6
Cement manufacturing	3	200	....	....	...	......	5	1
Auto and repair shop	2	600	....	....	...	......	3	1
Bakery	2	860	1	200	...	......	3	2
Glue factory	4	1,200	....	....	...	......	6	2
Fertilizer factory	6	4,500	....	....	...	......	8	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels. Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
SANTA ROSA—Continued.							
Total County	....	$ 3,074,424	$ 3,676,844	323,000	....	18,170	....
Saw mills and products	....	1,778,565	2,061,320	....	....	......	....
Naval stores, turpentine and rosin	....	783,060	1,000,338	....	....	......	....
Ginneries and products	....	37,344	39,991	323,000	....	18,170	....
Grist mills and products	....	25,502	32,480	....	....	......	....
Blacksmith and repair shop	....	28,453	36,785	....	....	......	....
Dry kiln	....	300,060	346,440	....	....	......	....
Newspaper publishing	....	7,820	9,405	....	....	......	....
Millinery and repairing	....	7,500	9,585	....	....	......	....
Shoe and repair shop	....	8,000	9,000	....	....	......	....
Machine and repair shop	....	37,600	43,700	....	....	......	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
SANTA ROSA—Continued.							
Syrup manufacturing	....	9,800	12,600	....	....	.....	......
Jewelry and repair shop	....	4,800	5,800	....	....	.....	......
Ice and electric light plants	....	16,000	22,000	....	....	.....	......
Bottling works	....	15,740	20,500	....	....	.....	......
Cement manufacturing	....	1,000	1,500	....	....	.....	......
Auto and repair shop	....	3,000	4,000	....	....	.....	......
Bakery	....	2,500	3,000	....	....	.....	......
Glue factory	....	1,800	10,000	....	....	.....	......
Fertilizer factory	....	5,800	8.400	....	....	.....	......

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ST. JOHNS.				
Total County	218	$ 1,366,845	2,132	$ 869,140
Saw mills and products	19	362,500	840	245,900
Naval stores, turpentine and resin	24	192,800	513	184,300
Shingle mills	2	600	35	10,450
Cooperage and repair work	11	43,900	57	26,050
Blacksmithing, wagon mfg. and repair work	11	20,123	24	13,700
Cross tie manufacture and wood work	1	300	6	1,800
Women's Tailoring and repair work	24	10,572	38	22,850
Men's tailoring and repairing	15	2,475	20	15,550

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ST. JOHNS—Continued.				
Planing mills and novelty works	4	17,000	27	10,000
Machine and repair shops	4	21,350	14	10,900
Bicycle and repair shops	7	9,100	12	11,800
Carpentering, building and repairing	11	21,200	73	53,300
Confectionery and preserving works	8	13,200	36	5,900
Ice manufacture	3	96,000	49	30,790
Cigar manufacture	7	30,500	53	36,150
Bakeries	9	8,000	25	20,100
Plumbing, tinning and repair work	6	23,800	15	11,300

Concrete and cement manufacture	6	4,300	61	26,100
Shoemaking and repairing	8	3,150	10	5,700
Publishing and job printing	6	25,800	49	13,250
Carpet manufacture and upholstering	4	550	4	2,400
Paint manufacture	6	2,825	15	10,400
Boat building and repairing	5	4,700	8	5,700
Laundry and clothes repairing	4	23,600	45	13,000
Gas and electric works	3	303,500	71	61,200
Water works and pumping plant	1	100,000	6	6,300
Automobile repair and garage	1	10,000	7	4,200
Brick manufacture	1	500	6	1,800
Photographs and studio supply works	2	5,500	6	3,600
Bottling works	3	4,500	5	2,800
Watch making and repairing	2	4,500	2	1,850

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ST. JOHNS—Continued.								
Total County	2,009	$821,390	123	47,750	....	......	2,107	1,466
Saw mills and products	840	245,900	....	....	....	......	840	553
Naval stores, turpentine and resin	513	184,300	....	....	....	......	488	283
Shingle mills	35	10,450	....	....	....	......	35	21
Cooperage and repair work	57	26,050	....	....	....	......	57	37
Blacksmithing, wagon mfg. and repair work	24	13,700	....	....	....	......	24	16
Cross tie manufacture and wood work	6	1,800	....	....	....	......	6	4
Women's tailoring and repair work	....	....	38	22,850	....	......	38	38
Men's tailoring and repairing	20	15,550	....	....	....	......	20	20

Planing mills and novelty works	27	10,000	....	....	....	......	27	22
Machine and repair shops	14	10,900	....	....	....	......	14	14
Bicycle repair shops	12	11,800	....	....	....	......	12	10
Carpentering, building and repairing	73	53,300	....	....	....	......	73	59
Confectionery and preserving works	10	1,500	26	4,400	....	......	36	31
Ice manufacture	49	30,790	....	....	....	......	49	38
Cigar manufacture	40	29,100	13	7,050	....	......	53	40
Bakeries	22	18,750	3	1,350	....	......	25	25
Plumbing, tinning and repair work	15	11,300	....	....	....	......	15	9
Concrete and cement manufacture	61	26,100	....	....	....	......	61	55
Shoemaking and repairing	10	5,700	....	....	....	......	10	10
Publishing and job printing	39	8,700	10	4,550	....	......	49	37
Carpet manufacture and upholstering	4	2,400	....	....	....	......	4	4
Paint manufacture	15	10,400	....	....	....	......	15	9
Boat building and repairing	8	5,700	....	....	....	......	8	6
Laundry and clothes repairing	14	6,800	31	6,200	....	......	45	29
Gas and electric works	69	59,850	2	1,350	....	......	71	65
Waterworks and pumping plant	6	6,300	....	....	....	......	6	6
Automobile repair and garage	7	4,200	....	....	....	......	7	7
Brick manufacture	6	1,800	....	....	....	......	6	6
Photographs and studio supply works	6	3,600	....	....	....	......	6	5
Bottling works	5	2,800	....	....	....	......	5	5
Watch making and repairing	2	1,850	....	....	....	......	2	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ST. JOHNS—Continued.							
Total County	....	$ 1,064,220	$ 1,644,575	....	....	......	....
Saw mills and products	....	306,100	400,075	....	....	......	....
Naval stores, turpentine and resin	....	226,900	355,500	....	....	......	....
Shingle mills	....	12,600	21,600	....	....	......	....
Cooperage and repair work	....	33,400	51,200	....	....	......	....
Blacksmithing, wag. mfg. & rep'g.	....	16,900	27,950	....	....	......	....
Cross tie mfg. and wood work	....	2,800	4,500	....	....	......	....
Women's tailoring and rep. work	....	37,100	61,760	....	....	......	....
Men's tailoring and repairing	....	20,800	34,350	....	....	......	....
Planing mills and novelty works.	....	14,600	20,900	....	....	......	....
Machine and repair shops	....	15,000	23,200	....	....	......	....

Bicycle and repair shops........	....	16,800	22,300	....	....	......	....
Carpentering, bld. and repairing.	....	72,700	142,400	....	....	......	....
Confectionery and preserv. works	....	6,560	15,200	....	....	......	....
Ice manufacture	....	34,780	58,200	....	....	......	....
Cigar manufacture	....	49,300	94,740	....	....	......	....
Bakeries	....	27,500	40,600	....	....	......	....
Plumbing, tinning and rep. work.	....	13,700	19,700	....	....	......	....
Concrete and cement mfg.	....	29,500	48,900	....	....	......	....
Shoemaking and repairing......	....	6,900	9,700	....	....	......	....
Publishing and and job printing..	....	19,700	34,450	....	....	......	....
Carpet manufacture and uphol...	....	3,400	5,000	....	....	......	....
Paint manufacture	....	14,100	21,050	....	....	......	....
Boat building and repairing	....	9,100	13,500	....	....	......	....
Laundry and clothes repairing...	....	9,800	15,400	....	....	......	....
Gas and electric works..........	....	37,080	63,200	....	....	......	....
Water works and pumping plant.	....	7,800	10,500	....	....	......	....
Automobile repair and garage...	....	7,000	9,000	....	....	......	....
Brick manufacture	....	2,100	4,000	....	....	......	....
Photographs and studio sup. wks.	....	4,100	6,500	....	....	......	....
Bottling works	....	3,900	5,100	....	....	......	....
Watch making and repairing ...	....	2,200	4,100	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
ST. LUCIE—				
Total County	9	$ 268,300	41	$ 24,000
Saw mills and products	2	3,000	18	11,000
Barrel factories	3	2,800	4	1,500
Bottling works	1	2,500	1	500
Ice manufacturing	2	10,000	6	4,000
Fish packing house	1	250,000	12	7,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
ST. LUCIE—Continued.								
Total County	41	$ 24,000	.....	$........	....	......	46	23
Saw mills and products	18	11,000	.....	....	....	......	18	8
Barrel factories	4	1,500	.....	....	....	......	4	2
Bottling works	1	500	.....	....	....	......	1	1
Ice manufacturing	6	4,000	.....	....	....	......	8	4
Fish packing house	12	7,000	.....	....	....	......	15	8

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
ST. LUCIE—Continued.							
Total County	....	$ 44,000	$ 66,000	....	....	......	....
Saw mills and products	....	15,000	20,000	....	....	......	....
Barrel factories	....	3,000	5,000	....	....	......	....
Bottling works	....	1,000	2,000	....	....	......	....
Ice manufacturing	....	7,000	9,000	....	....	......	....
Fish packing house	....	18,000	30,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
SEMINOLE.				
Total County	5	$ 159,000	148	$ 47.000
Saw mills and produtcs	1	4,000	10	4,000
Naval stores, turpentine and resin	2	85,000	110	25,000
Paper manufacture	1	50,000	18	12.000
Fertilizer manufacture	1	20,000	10	6.000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
SEMINOLE—Continued.								
Total County	148	$ 47.000	....	....	....	......	163	132
Saw mills and products	10	4,000	....	....	....	......	10	10
Naval stores, turpentine and resin	110	25,000	....	....	....	......	110	100
Paper manufacture	18	12,000	....	....	....	......	18	18
Fertilizer manufacture	10	6,000	....	....	....	......	25	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
SEMINOLE—Continued.							
Total County	....	$ 50,000	$ 88,000	....	....	......	....
Saw mills and products	....	3,000	6,000	....	....	......	....
Naval stores, turpentine and resin	....	20,500	37,000	....	....	......	....
Paper manufacture	....	21.000	30,000	....	....	......	....
Fertilizer manufacture	....	6.000	15,000	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
SUMTER—				
Total County	96	$ 432,675	684	$ 211,824
Saw mills and products	7	37,900	118	28,925
Naval stores, turpentine and rosin	12	243,000	280	104,250
Irrigating plants	56	52,875	56	5,459
Planing mill, shingle and crate factory	4	92,000	213	64,700
Grist mills and products	4	800	4	390
Blacksmith and repairs	9	4,900	9	5,700
Millinery and repairs	4	1,200	4	2,400

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID. *Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
SUMTER—Continued.								
Total County	684	$211,824	....	$........	....	......	735	533
Saw mills and products	118	28,925	....	....	....	......	118	98
Naval stores, turpentine and rosin	280	104,250	....	....	....	......	280	230
Irrigating plants	56	5,459	....	....	....	......	56	56
Planing mill, shingle and crate factory	213	64,700	....	....	....	......	264	132
Grist mills and products	4	390	....	....	....	......	4	4
Blacksmith and repairs	9	5,700	....	....	....	......	9	9
Millinery and repairs	4	2,400	....	....	....	......	4	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (Including Mill or Mine Supplies and Fuel.)	Value of Work (Including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
SUMTER—Continued.							
Total County	....	$ 308,600	$ 434,100	....	....	.....	....
Saw mills and products	....	43,100	59,700	....	....	.....	....
Naval stares, turpentine and rosin	....	154,000	218,000	....	....	.....	....
Irrigating plants	....	9,900	17,100	....	....	.....	....
Planing mill, shingle and crate factory	....	87,800	119,500	....	....	.....	....
Grist mills and products	....	800	1,600	....	....	.....	....
Blacksmith and repairs	....	9,300	13,100	....	....	.....	....
Millinery and repairs	....	3,700	5,100	....	....	.....	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
TAYLOR—				
Total County	15	$ 127,550	182	$ 79,500
Saw mills and products	4	19,250	51	26,600
Naval stores, turrentine and rosin	2	67,000	85	30,000
Ice and electric light plant	1	25,000	12	8,000
Bottling works	1	5,000	7	3,000
Foundry and machine shop	1	5,000	5	4,000
Garage and repairs	2	1,400	6	3,000
Cigar manufacturing	1	1,100	4	3,000
Bakery	1	600	3	900
Ginneries and products	2	3,200	9	1,000

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
TAYLOR—Continued.								
Total County	182	$ 79,500	....	$.......	....	......	218	128
Saw mills and products	51	26,600	....	....	....	......	61	31
Naval stores, turpentine and rosin	85	30,000	....	....	....	......	105	60
Ice and electric light plant	12	8,000	....	....	....	......	15	10
Bottling works	7	3,000	....	....	....	......	8	5
Foundry and machine shop	5	4,000	....	....	....	......	7	4
Garage and repairs	6	3,000	....	....	....	......	6	6
Cigar manufacturing	4	3,000	....	....	....	......	4	4
Bakery	3	900	....	....	....	......	3	2
Ginneries and products	9	1,000	....	....	....	......	9	6

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
TAYLOR—Continued.							
Total County	....	$ 112,500	$ 165.500	....	....	......	....
Saw mills and products	....	35,000	49,000	....	....	......	....
Naval stores, turpentine and rosin	....	45,000	70,000	....	....	......	....
Ice and electric light plant	....	12,000	18,000	....	....	......	....
Bottling works	....	4,000	6,000	....	....	......	....
Foundry and machine shop	....	6,000	8,000	....	....	......	....
Garage and repairs	....	4,000	5,500	....	....	......	....
Cigar manufacturing	....	4,000	5,000	....	....	......	....
Bakery	....	1,000	1,500	....	....	......	....
Ginneries and products	....	1.500	2,500	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
VOLUSIA—				
Total County	190	$ 2,470,240	2.724	$ 936,357
Saw mills and products	16	348,900	485	211.050
Naval stores, turpentine and rosin	23	1,129,000	1,020	271.417
Cross tie manufacturing	12	14,100	126	20.250
Novelty works	5	18,700	16	11,200
Publishing and printing	6	95,000	56	31,550
Blacksmith and repairs	5	9.200	11	7,900
Auto and bicycle repairs	19	106,450	40	42,800
Packing house	11	48.200	395	67.120
Fish and oyster packing house	8	17,000	160	24,200

Contractor and builder	10	18,050	83	65,600
Plumbing and repairing	10	33,300	22	25,500
Concrete and stone manufacturing	8	9,100	27	17,350
Dress making	5	475	5	850
Laundry	9	14,565	42	10,050
Bakery	9	11,150	24	14,850
Jelly and preserve manufacturing	2	13,800	7	2,400
Electric light, ice and water plants	8	373,800	99	48,370
Shell mining	6	48,500	43	15,800
Brick manufacturing	2	122,000	26	19,000
Bottling works	2	6,000	4	2,400
Marine ways and drydock	2	19,000	14	12,500
Watch repair shop	3	2,050	5	5.750
Shoe repair shop	2	1,000	2	2,000
Millinery	7	10,900	12	6,450

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number	Wages.	Average Number.	Wages.		
VOLUSIA—Continued.								
Total County	2,668	$919,607	56	$ 16,750	....	......	3,737	1.366
Saw mills and products	485	211,050	....	....	....	......	632	241
Naval stores, turpentine and rosin	1,020	271,417	....	....	....	......	1,177	612
Cross tie manufacturing	126	20,250	....	....	....	......	169	70
Novelty works	16	11,200	....	....	....	......	31	9
Publishing and printing	56	31,550	....	....	....	......	96	26
Blacksmith and repairs	11	7,900	....	....	....	......	16	8
Auto and bicycle repairs	40	42,800	....	....	....	......	66	26
Packing house	395	67,120	....	....	....	......	635	86
Fish and oyster packing house	160	24.200	....	....	....	......	182	40

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
VOLUSIA—Continued.								
Contractor and builder	83	65,600					160	43
Plumbing and repairing	22	25,500					72	19
Concrete and stone manufacturing	24	17,350					59	12
Dress making			5	850			10	5
Laundry	10	3,000	32	7,050			64	22
Bakery	24	14,850					42	16
Jelly and preserve manufacturing			7	2,400			16	3
Electric light, ice and water plants	99	48,370					130	69
Shell mining	43	15,800					78	19
Brick manufacturing	26	19,000					35	17

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
VOLUSIA—Continued.								
Bottling works	4	2,400	.....	....	....	......	5	2
Marine ways and dry dock	14	12,500	.....	....	....	......	25	7
Watch repair shop	5	5,750	.....	....	....	......	7	4
Shoe repair shop	2	2,000	.....	....	....	......	5	2
Millinery	.....	....	12	6,450	....	......	25	8

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
VOLUSIA—Continued.							
Total County	....	$ 1,872,570	$ 2,719,715	....	....	....	....
Saw mills and products	....	425,550	616,800	....	....	....	....
Naval stores, turpentine and rosin	....	501,000	630,615	....	....	....	....
Cross tie manufacturing	....	26,620	51,450	....	....	....	....
Novelty works	....	25,000	35,000	....	....	....	....
Publishing and printing	....	50,620	89,750	....	....	....	....
Blacksmith and repairs	....	16,000	22,200	....	....	....	....
Auto and bicycle repairing	....	69,120	113,200	....	....	....	....
Packing house	....	138,720	187,200	....	....	....	....
Fish and oyster packing house	....	50,170	105,500	....	....	....	....
Contractor and builder	....	180,600	250,300	....	....	....	....
Plumbing and repairing	....	80,450	105,000	....	....	....	....
Concrete and stone manufacturing	....	33,150	62,000	....	....	....	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
VOLUSIA—Continued.							
Dress making	....	1,670	3,500	....	....	......	....
Laundry	....	13,475	28,700	....	....	......	....
Bakery	....	52,735	72,150	....	....	......	....
Jelly and preserve manufacturing	....	16,800	24,800	....	....	......	....
Electric light, ice and water plant	....	77,790	128,850	....	....	......	....
Shell mining	....	29,900	58,800	....	....	......	....
Brick manufacturing	....	30,800	45,000	....	....	......	....
Bottling works	....	7,200	10,500	....	....	......	....
Marine ways and dry docks	....	17,500	33,000	....	....	......	....
Watch repair shop	....	6,450	8,500	....	....	......	....
Shoe repair shop	....	4,800	7,500	....	....	......	....
Millinery	....	16,450	29,400	....	....	......	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
WAKULLA.				
Total County	22	$ 231,675	432	$ 53,625
Saw mills and products	6	15.700	60	11,050
Naval stores, turp. and resin	6	214,000	355	39,500
Cooperage and repair shops	8	1,475	15	2,475
Women's tailoring and dressmaking	2	500	2	600

*TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
WAKULLA—Continued.								
Total County	390	$ 49,275	2	$ 600	40	$3,750	484	252
Saw mill and products	60	11,050	....	....	....	......	73	37
Naval stores, turpentine and resin	315	35,750	....	....	40	3,750	388	205
Cooperage and repair shops	15	2,475	....	....	....	......	19	8
Women's tailoring and dressmaking	....	....	2	600	....	......	4	2

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
WAKULLA—Continued.							
Total County		$ 54,600	$ 70,325				
Saw mills and products		11,050	15,400				
Naval stores, turp. and resin		40,250	49,600				
Cooperage and repair shops		2,650	4,300				
Women's tailoring and dressmak'g		650	1,025				

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
WALTON.				
Total County	135	$ 1,592,932	1,814	$ 680,517
Saw mills and products	19	974,100	692	286,915
Naval stores, turpentine and resin	29	519,800	988	361,430
Blacksmithing and general repairing	26	4,330	28	4,424
Contract work and carpentering	18	1,825	26	10,300
Grist and feed mills	19	6,872	19	2,582
Ginneries and products	9	10,350	26	2,880
Shingle manufacture	2	300	4	950
Brick manufacture	1	305	5	625
Boat building and repairing	1	150	1	150

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
WALTON—Continued.				
Electric power and water plant	1	48,000	4	3,000
Shoe repairing and leather work	2	800	2	1,085
Publishing and job printing	2	10,500	4	2,166
Garage and automobile repairing	3	3,350	6	1,550
Ice manufacture	1	7,000	5	1,260
Bottling works	1	5,000	3	900
Plumbing and repairing	1	250	1	300

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
WALTON—Continued.								
Total County	1,804	$678,517	....	....	10	$2,000	2,114	1,555
Saw mills and products	682	284,915	....	....	10	2,000	767	640
Naval stores, turpentine and resin	988	361,430	....	....	...	......	1,194	811
Blacksmithing and general repairing	28	4,424	....	....	...	......	30	27
Contract work and carpentering	26	10,300	....	....	...	......	29	20
Grist and feed mills	19	2,582	....	....	...	......	20	19
Ginneries and products	26	2,880	....	....	...	......	27	15
Shingle manufacture	4	950	....	....	...	......	4	4
Brick manufacture	5	625	....	....	...	......	5	1
Boat building and repairing	1	150	....	....	...	......	1	1

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
WALTON—Continued.								
Electric power and water plant	4	3,000	....	....	....	......	4	4
Shoe repairing and leather work	2	1,085	....	....	....	......	2	2
Publishing and job printing	4	2,166	....	....	....	......	8	2
Garage and automobile repairing	6	1,550	....	....	....	......	7	5
Ice manufacture	5	1,260	....	....	....	......	12	1
Bottling works	3	900	....	....	....	......	3	2
Plumbing and repairing	1	300	....	....	....	......	1	1

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed.
WALTON—Continued.							
Total County	....	$ 1,392,976	$ 1,712,693	697,200	....	37,076	....
Saw mills and products	....	752,213	883,555	....	....	....	....
Naval stores, turp and resin	....	596,127	741,594	....	....	....	....
Blacksmithing and gen'l. repair'g.	....	7,515	15,770	....	....	....	....
Contract work and carpentering	....	8,875	18,215	....	....	....	....
Grist and feed mills	....	3,045	5,899	....	....	....	....
Ginneries and products	....	1,590	3,725	697,200	....	37,076	....
Shingle manufacture	....	1,550	2,375	....	....	....	....
Brick manufacture	....	425	860	....	....	....	....
Boat building and repairing	....	200	350	....	....	....	....

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
WALTON—Continued.							
Electric power and water plant	....	6,600	8,800	....	....	....	....
Shoe repairing and leather work	....	2,230	2,740	....	....	....	....
Publishing and job printing	....	3,726	7,360	....	....	....	....
Garage and automobile repairing	....	5,380	13,200	....	....	....	....
Ice manufacture	....	1,850	4,300	....	....	....	....
Bottling works	....	1,200	3,200	....	....	....	....
Plumbing and repairing	....	450	750	....	....	....	....

TABLE NO. 4.—SPECIFIED INDUSTRIES BY COUNTIES; AVERAGE NUMBER OF WAGE EARNERS; TOTAL WAGES PAID.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Number of Establishments Reporting.	Capital Invested (including lands, buildings, Improvements, machinery, cash.)	Average Number Wage Earners.	Total Wages.
WASHINGTON.				
Total County	43	$ 1,036,225	$ 1,158	253,300
Saw mill and products	13	509,700	445	98,910
Naval stores, turpentine and resin	9	472,000	662	141,500
Grist mill and products	9	3,600	10	1,100
Ginneries and products	4	17,500	15	3,190
Blacksmith and repair shop	5	925	6	2,100
Brick manufacture	1	5,000	10	4,500
Bottling works	1	2,500	2	900
Elec. light, ice and water plant	1	25,000	8	1,100

TABLE NO. 4.—AVERAGE NUMBER WAGE EARNERS; SPECIFIED AGES; WAGES PAID.

Continued.

SPECIFIED INDUSTRIES BY COUNTIES.	Men 16 Years and Over.		Women 16 Years and Over.		Children Under 16 Years.		Greatest No. Employed at Any One Time During Year in Industry.	Least No. Employed at Any One Time During the Year in Industry.
	Average Number.	Wages.	Average Number.	Wages.	Average Number.	Wages.		
WASHINGTON—Continued.								
Total County	977	$225,960	....	....	181	27,340	1,495	860
Saw mill and products	344	83,870	....	....	101	15,040	667	379
Naval stores, turpentine and resin	582	129,200	....	....	80	12,300	738	445
Grist mill and products	10	1,100	....	....	....	......	12	10
Ginneries and products	15	3,190	....	....	....	......	29	11
Blacksmith and repair shop	6	2,100	....	....	....	......	11	5
Brick manufacture	10	4,500	....	....	....	......	12	4
Bottling works	2	900	....	....	....	......	6	2
Electric light, ice and water plant	8	1,100	....	....	....	......	20	4

TABLE NO. 4.—COST OF MATERIAL USED; VALUE OF PRODUCTS.—*Continued.*

SPECIFIED INDUSTRIES BY COUNTIES.	Mines and Mining Products — Character of Ores Mined—Phosphate—Tons.	Cost of Material and Value of Products.		Ginneries and Products.			
		Cost of Production and Material Used (including Mill or Mine Supplies and Fuel.)	Value of Work (including Custom Work and Repairing.)	No. Lbs. Lint Upland Cotton Ginned at this Gin this Year.	No. Lbs. Lint Sea Island Cotton Ginned at this Gin this Year.	No. Bushels Upland Cotton Seed.	No. Bushels Sea Island Cotton Seed
WASHINGTON——Cont'd.							
Total County	....	$ 324,094	$ 430,245	920,000	....	56,586	....
Saw mill and products...........	....	127,084	166,770	....	....	......	....
Naval stores, turp. and resin.....	....	182,800	242,100	....	....	......	....
Grist mill and products.........	....	1,260	2,375	....	....	......	....
Ginneries and products	....	3,300	5,800	920,000	....	56,586	....
Blacksmith and repair shop.....	....	2,350	3,500	....	....	......	....
Brick manufacture	....	4,700	6,000	....	....	......	....
Bottling works	....	1,100	1,600	....	....	......	....
Elec. light, ice and water plant...	....	1,500	2,100	....	....	......	....

INDEX TO CONTENTS.

	PAGE.
Letter of Transmittal	5
Preface	7
Statement of Expenditures	IX to XXVI
Division of Agriculture	XXVI to XXXVIII
Live Stock Growing and Feeding in Florida	3 to 12
Making and Feeding of Silage	11 to 65
Cane Grinding and Syrup Making	67 to 74
Sugar Cane	75 to 84
Pig Feeding	85 to 106
Kudzu	107 to 111
Kudzu and Japanese Sugar Cane	112 to 120
Serum Treatment of Hog Cholera	121 to 138
Improving Acid Soils	139 to 155
Strawberries	157 to 162
Cattle Tick Eradication	163 to 186
Construction of a Dipping Vat	187 to 204
The Everglades	205 to 227
Seasons and Dates for Planting	229 to 234
Useful Information	235 to 240
Crop Statistics Discussed	241 to 246
Agricultural Statistics 1911-12	250 to 346
Meteorological Report	347 to 365
Industrial Statistics (Manufacture)	370 to 670